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Shear wave splitting analysis beneath Tien Shan: Geodynamic implications of complex anisotropy

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SHEAR WAVE SPLITTING ANALYSIS BENEATH TIEN SHAN: GEODYNAMIC IMPLICATIONS OF COMPLEX ANISOTROPY

by

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This dissertation consists of the following article that has been formatted according to Missouri University of Science and technology specifications and will be submitted for publication as follows.

Pages 2-60 are intended for submission to the JOURNAL OF GEODYNAMICS.

ABSTRACT

In spite of numerous studies, the mechanisms for the crustal shortening, mountain formation and associated tectonism leading to complex or simply seismic anisotropy formation beneath the Tien Shan Orogenic Belt is still debated. The most popular hypotheses suggested for the existence of seismic anisotropy are small-scale mantle convection, regional scale resistive basal shear and APM induced asthenospheric flow. Here, we used shear-wave splitting (SWS) measurements with good azimuthal coverage to provide additional constraints on the various models proposed by previous studies. One of the most effective approaches utilized to constrain convective mantle flow patterns is the splitting of P-to-S converted phases at the core-mantle boundary on the receiver side (XKS including PKS, SKKS, and SKS). Consequently, a robust procedure involving automatic and manual batch processing to reliably assess and objectively rank shear-wave splitting parameters were used. The resulting 2089 pairs of well-defined XKS splitting parameters obtained from 25 stations located in the study area were broad enough to make a reliable determination about the existence or absence of complex anisotropy. Out of the 25 stations, measurements from 10 stations show insignificant azimuthal variations, the majority of stations demonstrating strike parallel E-W fast orientation. A remarkable feature of the fast orientations observed at the 15 stations is a clear azimuthal variation with a 90^0 periodicity, indicating the existence of two-layer anisotropy. Thus, the strike-parallel upper layer anisotropy is caused by lithospheric shortening, and anisotropy in the lower layer is associated with WNW-ward flow of asthenospheric material sandwiched between the subducting Tarim lithosphere and the thick Kazakh lithospheric root.

ACKNOWLEDGMENTS

I would like to express my appreciation and thankfulness to Professor Stephen Gao for his outstanding guidance and encouragement throughout the period of my study. I have learned hard working, careful reading and understanding as well as the strength to achieve the objectives I set. My appreciation and thank goes to Kelly H. Liu for her continuous support, and inspiration throughout the period of this study.

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My ultimate and most heartfelt acknowledgment to my beloved wife, Meseret Nigussie Melka, for her unreserved support, encouragement and understanding of the situation throughout my study period. She has made my life easy and the hard journey of research tolerable.

DEDICATION

I Dedicate My Life to My Lord

Jesus Christ

Who Makes Everything Possible

And To His Mother **Saint Mary**

For Her Intersession with Her Beloved Son

and

I Dedicate This Dissertation work To My Beloved Father,

Late Reesedebere Aba Gerrawork Cherie

and

To My Late Brother, the Army Veteran,

Ayalew Gerrawork Cherie

Whom They Passed-away

Before Seeing My Long Standing Dream Becomes True

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

PAPER I Page

NOMENCLATURE

Symbol	Description
ϕ	Fast Orientation
δt	Splitting Time

SECTION

1. INTRODUCTION

The tectonic movements of Earth's lithospheric plates as well as viscous deformation of the mantle rocks beneath are caused by the Earth's mantle convection processes, which must be viewed in the context of plate dynamics [Silver, 1996; Conrad et al., 2007]. The evidence and timing about the tectonic processes and the structural elements they produced on the lithosphere and mantle are the direct and/or indirect information which will tell us the dynamics of the Earth through the study of seismic anisotropy, which occurs in the lithosphere and mantle.

One of the methods of examining seismic anisotropy is through the popular method of shear wave splitting (SWS) analysis introduced in early 1980s [Vinnik et al., 1984; Silver and Chan 1988] to measure seismic anisotropy which is characterized by the polarization ϕ of the leading shear wave and by the delay time δt between the fast and slow directions [e.g. Crampin, 1984, Silver and Savage, 1994]. Splitting of P-to-S converted phases, which are PKS, SKS and SKKS here after named as XKS, at core-mantle boundary (CMB) is therefore an effective tool to measure and image seismic anisotropy and thus, to constrain the convective pattern in the upper mantle [Gao et al., 1994; Silver, 1996; Savage, 1999; Fouch and Rondenay, 2006; Gao and Liu, 2009; Long and Silver, 2009; Gao et al., 2010; Liu and Gao, 2012].

This study examines the lithospheric and mantle structure beneath the Tien Shan Orogenic Belt (Figure 1) using SWS technique. The resulting SWS parameters show a two layer model suggesting existence of complex anisotropy beneath the central Tien Shan.

PAPER

SHEAR WAVE SPLITTING ANALYSES BENEATH TIEN SHAN: GEODYNAMIC IMPLICATIONS OF COMPLEX ANISOTROPY

ABSTRACT

The Tien Shan is a tectonically complex intracontinental orogenic belt situated between the Tarim Basin and the Kazakh Shield. Previous shear wave splitting (SWS) studies conducted in the Tien Shan region resulted in a variety of anisotropy-forming hypotheses, including small-scale mantle convection, absolute-plate motion induced flow, and tectonic fabrics in the lithosphere. The vast majority of the previous SWS measurements were presented as station averages, which are only valid when the anisotropy structure can be approximated by a single layer of anisotropy. In this study, we measure the splitting parameters (fast orientations and splitting times) at 25 stations that recorded high-quality data from a wide back-azimuthal range for the purpose of identifying and characterizing complex anisotropy. Among the 25 stations, 15 of them show systematic azimuthal variations in the observed splitting parameters with a 90-degree periodicity, suggesting wide spread existence of double layered anisotropy in the study area. The fast orientations of the top layer range from 57 to 90° measured clockwise from the north, which are subparallel to the strike of the orogenic belt, and the splitting times are between 0.9-1.9 s. The corresponding values for the lower layer are -45 to -85◦ and 1.2-2.2 s, respectively. The remaining 10 stations demonstrate azimuthally invariant splitting parameters with strike-parallel fast orientations, and can be represented by a

single layer of anisotropy with a horizontal axis of symmetry. We propose that the strike-parallel anisotropy is caused by lithospheric shortening, and anisotropy in the lower layer is associated with WNW-ward flow of asthenospheric material sandwiched between the subducting Tarim lithosphere and the thick Kazakh lithospheric root.

1. INTRODUCTION

The Himalayan and Tien Shan Orogenic Belt (TSOB), in addition to the Tibetan Plateau, and the Baikal rift zone are believed to reside within the within the extensive tectonic influence of the India-Eurasia collisional field [e.g. Allegre et al., 1984; Yin, 2010] (Figure 1.1). Closure of the Paleo-Asian Ocean during the Late Paleozoic to Early Mesozoic and associated accretion of island arcs and collision contributed to the build-up of the Tien Shan range [Sengör et al., 1993; Glorie et al., 2011], which is a well-developed intracontinental orogenic belt constituting the southwestern margin of the Central Asian Orogenic Belt. Far-field stresses emanating from the collision of the Indian and Eurasian plates during the Cenozoic later induced a reactivation of the TSOB [Li et al., 2010]. The surface topography and tectonic structures such as thrust faults, strike-slip faults etc., observed in the study area are surficial expression of lithospheric deformation resulted from the Cenozoic collision (Thompson et al., 2002; Vinnik et al., 2006; Li et al., 2010). Various strike parallel ranges and intermontain basins bounded by faults producing a belt of extensive deformation and significant seismicity [Guo et al., 2006] with reported magnitudes exceeding values of 8 [Zubovich et al., 2010] (Figure 1.1). A major dextral strike-slip fault, the Talasso-Fergana fault (Figure 1), separates the western and central TSOB (Makeyeva et al., 1992).

Based on GPS measurements and earthquake focal mechanism studies, the TSOB is believed to undergo significant N-S crustal shortening at a rate of ~20 mm/yr [Abdrakhmatov et al., 1996] whereas the Tarim Basin is relatively resistant to significant deformation [Neil and Houseman, 1997] and acts as a rigid body to transfer compressional stresses to the Tien Shan region.

The upper mantle structure beneath the TSOB and adjacent areas has been investigated by a number of seismic tomography studies. Guo et al. (2006) carried out seismic tomography analyses using P-arrivals recorded by passive seismic array across the Chinese Tien Shan and regional seismic network. They imaged velocity structure of the crust and upper mantle down up to 400 km depth. The resulting crust structure shows lateral distortion, suggesting that the Tien Shan crust is strongly squeezed by the Tarim Block whereas the 60-90 km thick high velocity anomaly beneath the Tarim and Junggar Basins on the top of upper mantle demonstrates asymmetric bilateral thrusting system. Additionally, the authors suggested the existence of low velocity anomaly at a depth of 150-400 km beneath the Tarim and Junggar blocks.

A teleseismic tomographic study by Lei and Zhao (2007) using 7176 high-quality P-wave arrivals revealed a high velocity block with a 60 km diameter extending down to the mantle transition zone. Based on this finding, the authors suggested a southward and northward underthrusting of the Kazakh Shield and Tarim Basin, respectively, beneath the Tien Shan.

Investigating lithospheric and mantle dynamics using the shear wave splitting (SWS) technique is a fundamental step toward understanding the kinematics of orogenesis as well as the relationship between mantle deformation and seismic anisotropy (Silver and Chan, 1991; Makeyeva et al., 1992; Wolfe and Vernon, 1998; Savage, 1999; Long and Silver, 2009; Becker et al., 2003). Mantle deformation produces lattice preferred orientation (LPO) of mantle anisotropic minerals, primarily olivine, from which we are able to examine the polarization orientation and the magnitude of strain (Nicolas and Christensen, 1987; Zhang and Karato, 1995). Thus, splitting of P-to-S converted

phases on the receiver-side of the core-mantle boundary including the PKS, SKKS, and SKS (which are hereafter referred to as XKS) phases, is utilized to understand lithospheric and asthenospheric LPO (Silver, 1996; Savage, 1999; Fouch and Rondenay, 2006; Gao and Liu, 2009; Long and Silver, 2009; Gao et al., 2010).

When seismic shear waves travel through anisotropic media, they split into orthogonal fast and slow waves; the resulting pair of splitting parameters is defined by ϕ, the polarization orientation of the fast wave, and δt, the delay time between the fast and slow components (Silver and Chan, 1991; Vinnik et al., 2007; Liu et al., 2008; Long and Silver, 2009). The polarization orientation of the fast wave is often interpreted as either parallel to mantle flow, parallel to the strike of sub-vertical lithospheric dikes, or normal to the maximum compressional stress (Karato, 1989; Silver and Chan, 1991; Gao et al., 1994; 1997).

Under the simple anisotropy model which refers to a single layer of azimuthal anisotropy with a horizontal axis of symmetry, the splitting parameters are invariant with respect to the back-azimuth (BAZ) of the XKS event. On the other hand, for most forms of complex anisotropy models, the parameters are systematic functions of the splitting parameters measured under the assumption of simple anisotropy (and therefore, the observed splitting parameters are apparent rather than true parameters). The apparent splitting parameters for the simplest form of complex anisotropy, which is composed of two layers of simple anisotropy with non-parallel and non-orthogonal fast orientations, have a 90° periodicity with respect to the BAZ, i.e., $P(\theta) = P(\theta+90n)$ where P represents the observed splitting parameters (ϕ or δt), θ is the modulo of the BAZ in the first quadrant, and n=1,2,3 (Silver and Savage, 1994; Liu and Gao, 2013).

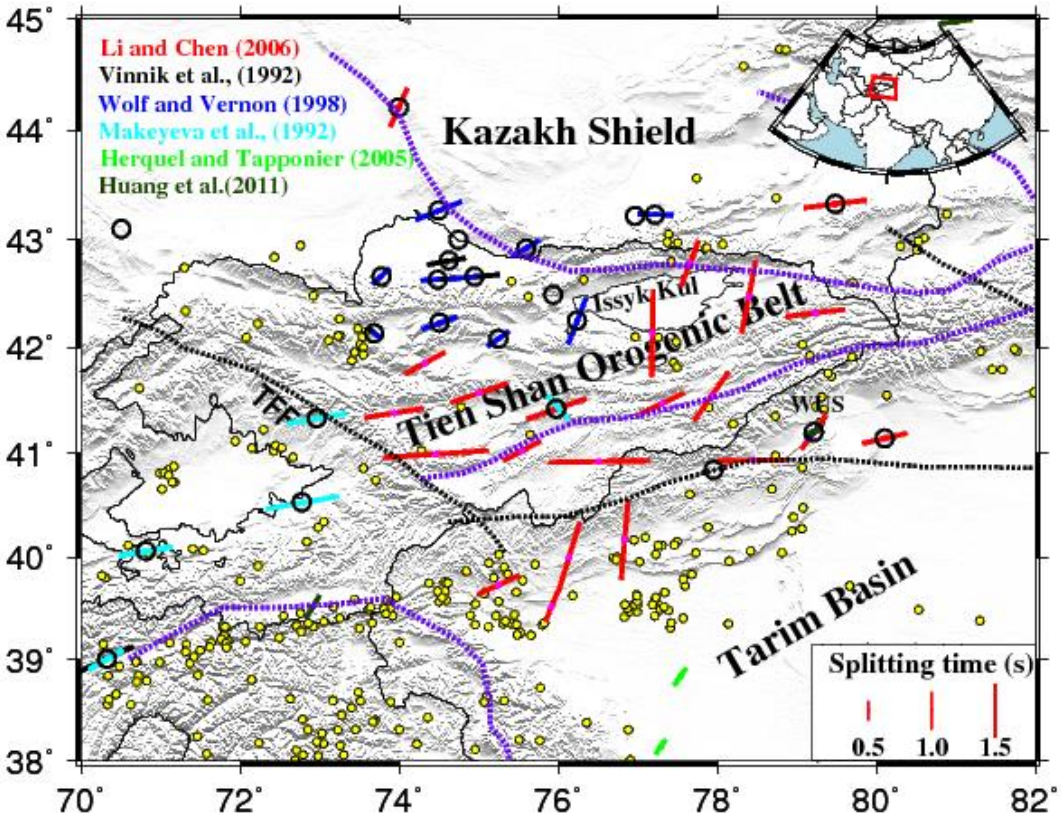

Figure 1: Topographic base map showing previous SWS measurements in the Tien Shan and adjacent areas. The orientation of the bar represents the fast polarization direction and the length of the bar is proportional to the splitting time. Bars with open circle correspond with our stations showing complex anisotropy or simple anisotropy. Purple dotted lines represent sutures, black dashed lines are faults, yellow circles are earthquake stations; WUS is the location of station with complex anisotropy proposed by previous studies; TFF: Talasso-Fergana fault. Red rectangle in the inset map is location of the study area. Results of previous SWS studies were obtained from the following website: (http://www.gm.univmontp2.fr/splitting/DB/public/searchdatabase.html)

2. PREVIOUS SHEAR WAVE SPLITTING STUDIES

As summarized in Figure 1, seismic anisotropy beneath the TSOB and adjacent areas has been investigated by a number of SWS studies (Makeyeva et al., 1992; Vinnik et al., 1992; Wolfe and Vernon, 1998; Herquel and Tapponier, 2005; Li and Chen, 2006; Huang et al., 2011). These studies played an important role in providing constraints on various models for the formation, structure and dynamics of the TSOB. With the exceptions of Vinnik et al. (2007) and Li et al. (2010), which investigated complex anisotropy beneath a single station (WUS) located at the northern rim of the Tarim Basin (Figure 1), all the other studies were conducted under the assumption of simple anisotropy. Consequently, the splitting parameters were reported in the form of station-averaged values. Azimuthal variations of the splitting parameters, which are indicators of complex anisotropy (Silver and Savage, 1994), cannot be identified or characterized using station-averaged splitting parameters.

The earliest SWS study targeted the TSOB was conducted by Makeyeva et al. (1992), who used SKS data from 18 analog seismic stations and reported nearly E-W fast orientations in western and central Tien Shan except for 3 stations in the Issyk Kul area, where nearly N-S fast orientations were observed (Figure 1). They suggested that a mantle flow system associated with a rising mantle plume is responsible for the observed anisotropy.

Wolfe and Vernon (1998) measured station-averaged SKS splitting parameters at 12 digital stations in the Kyrgyzstan Broadband Seismic Network (KNET) and hypothesized the existence of a complex mantle flow system produced by small-scale convection. They suggested mechanical decoupling between the crust and the uppermost

mantle, and proposed that mantle flow below the Tien Shan is not related to the presumed crustal shortening caused by the continuous indentation of India in to the Eurasian plate.

Herquel and Tapponnier (2005) obtained teleseismic SKS and SKKS data from 7 broadband three-component stations located in the western Tibetan Plateau and the Tarim basin (Figure 1). They conducted SWS analyses using the rotation-correlation method and obtained dominantly NE-SW fast orientations and proposed two competing mechanisms for the observed anisotropy: underthrusting of the Tarim lithosphere beneath the Tibetan Plateau or frozen-in anisotropy within the Precambrian lithosphere.

SWS analyses were carried out by Li and Chen (2006) using SKS data recorded by 30 stations in central Tien Shan, northern Tarim Basin, and the Kazakh platform. The stations are predominantly from the portable GHENGIS network, which was operated for almost three years (October 1997 to August 2000). The resulting SWS measurements show fast orientations that are subparallel to the trend of the TSOB. Additionally, NNE-SSW fast orientations observed by Li and Chen (2006) in the Issyk Kul (Figure 1) and the area 200 km south of Issyk Kul were used to suggest that regional-scale convection pervaded the sub-lithospheric mantle beneath the Tien Shan. These NNE-SSW polarizations are approximately analogous with the surface velocity of the central Tien Shan (Abdrakhmatov et al., 1996) and were consequently hypothesized to be generated by basal shear due to lithosphere-asthenosphere relative motion. In addition, the study of Li and Chen (2006) reveled the fact that E-W splitting parameters are at high angle with the NW-SE Talasso-Fergena right-lateral strike-slip fault (Figure 1) and suggested little or no impact of the fault on the observed anisotropy.

Vinnik et al. (2007) used a dataset recorded by 10 broadband stations, among which 2 are from the GHENGIS network and 8 are from permanent networks including IRIS/GSN, Geoscope and KNET to conduct joint analysis of P-to-S receiver functions and SKS particle motions. Their results show a relatively weak anisotropy and a lateral variation in the wave polarization at about 100 km depth in the mantle lithosphere, which is not mechanically coupled from the crust. These authors suggested a two-layer anisotropic model beneath station WUS (upper layer ϕ_U=-30° and lower layer ϕ_L=45°), and proposed that the upper layer is due to conjugate effects of present day thrusting and relict deformational fabrics in the crust, while the lower layer is sourced from recent uniaxial shortening in the asthenosphere.

Li et al. (2010) measured SKS, SKKS, and PKS splitting parameters using data recorded by station WUS over a 20 year period. The resulting fast orientations demonstrate a systematic azimuthal variation with a 90° periodicity, suggesting the existence of two layers of anisotropy with horizontal axes of symmetry. The fast orientation of the low layer is ϕ_L = 85−105° which is parallel to the absolute plate motion (APM) direction of the Eurasian plate in the hotspot frame (Gripp and Gorden, 2002); and that of the upper layer ϕ_U = 60 − 80°, which is consistent with the strike of the mountain belt and is attributed to N-S lithospheric shortening (Li et al., 2010). Note that the resulting two-layer parameters for WUS obtained by Li et al. (2010) and Vinnik et al. (2007) are significantly different.

A comprehensive SWS analysis beneath the entire China including the Tien Shan was carried out by Huang et al. (2011) using all the three XKS phases recorded by 138 seismic stations operated from 2000 to 2009 by the China Seismic Network Data Center.

Upon observing the consistency of XKS fast orientations within the Tien Shan and the regional trend of orogenic belts and active regional faults, Huang et al. (2011) proposed a lithospheric origin for the observed anisotropy.

Obviously, in spite of numerous studies, the existence and spatial distribution of complex anisotropy beneath the TSOB and adjacent areas, as well as the anisotropy-forming mechanisms in the area are still debated issues. In addition, the fact that only one station (WUS) was investigated for complex anisotropy, when combined with the inconsistency in the resulting two layer parameters between the studies of Li et al. (2010) and Vinnik et al. (2007) at WUS, gives rise to the necessity of a fresh approach to these long-lived topics of interest. This work presents individual (rather than station-averaged) SWS measurements to identify and characterize complex anisotropic layering and explores its geodynamic implications.

3. DATA AND METHOD

The teleseismic XKS data set we used in this study was obtained from broadband observatory stations installed in the TSOB and adjacent areas with data archived in the IRIS (Incorporated Research Institutions for Seismology) DMC (Data Management Center). The dataset was recorded by 25 stations in 6 different networks, with varying recording length spanning the period from early 1989 to early 2014.

Seismic events used were selected based on the following criteria: for PKS, the epicentral distance range is 120^0–180°, and the cutoff magnitude is 5.8; for SKKS, the corresponding values are 95^0–180° and 5.6; and for SKS, they are 83^0–180° and 5.6 (Liu and Gao, 2013). The distribution of events which provide at least one well-defined (Quality A or B, see below) measurement is depicted in Figure 2a. The majority of events were sourced from the western Pacific subduction zones and from the west coast of North and South America.

We employ the SWS procedure of Liu and Gao (2013), which was developed based on the minimization of transverse energy method (Silver and Chan, 1991) to compute SWS parameters. Seismograms are first filtered between 0.04 and 0.5 Hz and the splitting parameters are obtained by an automated procedure. An objective ranking algorithm (Liu et al., 2008) is applied to rank the resulting splitting parameters to qualities A (outstanding XKS arrivals on both the radial and transverse components), B (good), C (poor), and N (null, for which strong XKS energy is observed on the radial component, but is absent on the transverse component), on the basis of the signal-to-noise ratios of the original and corrected radial and transverse components. The inverse F-test method of Silver and Chan (1991) is used to estimate the standard errors of the splitting parameters.

Subsequently, manual checking is applied to all measurements in the dataset to make the necessary adjustment to the beginning and ending times of the XKS window, the filtering parameters, as well as the results of automatic ranking. As demonstrated in Liu and Gao (2013) and Kong et al. (2015) using synthetic and real XKS data, this is a very time-consuming but critical step in order to obtain reliable SWS measurements.

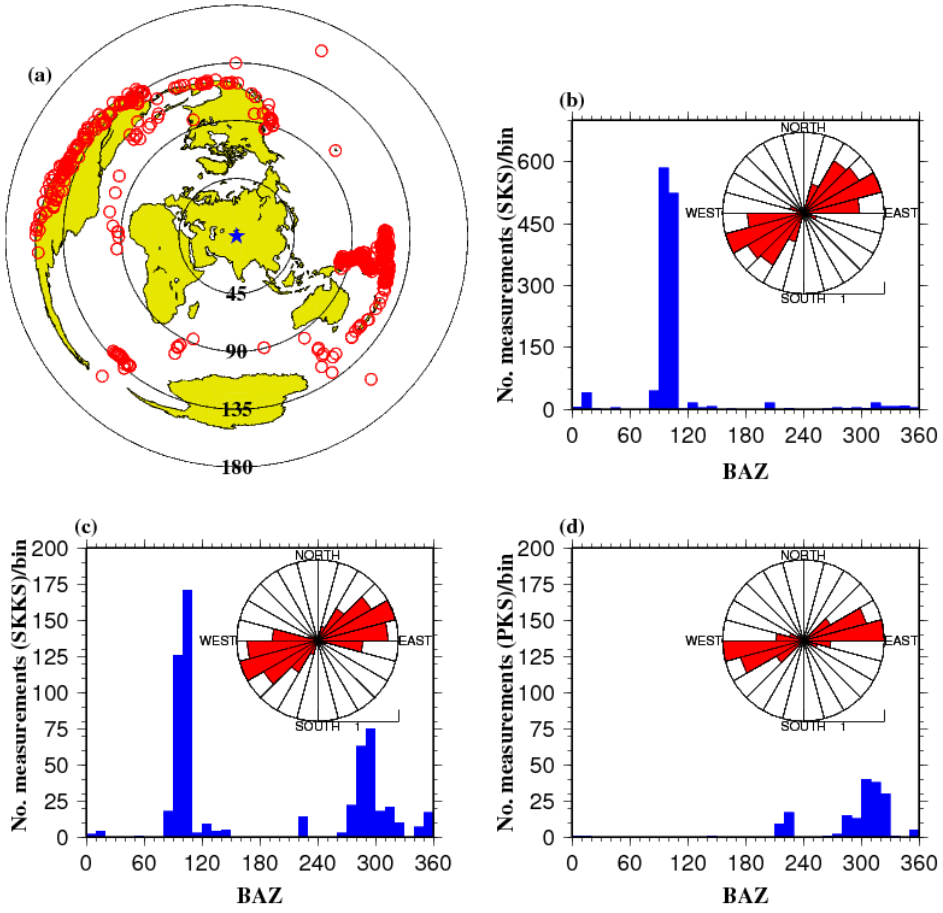

Figure 2: (a) Azimuthal equidistant projection map showing distribution of the utilized earthquake epicenters (red circles) for our study area, the center of which is denoted by a solid star. Solid circles and corresponding labels show the distance in degrees to the center of the study area. (b) A histogram showing the back azimuths of the SKS measurements. A rose diagram for fast orientations is shown as inset. (c) Same as (b), but for SKKS splitting parameters. (d) Same as (b), but for PKS splitting parameters

4. RESULTS

After manually checking, 2089 well-defined XKS, splitting parameters were obtained at 25 stations with a back-azimuthal coverage (in the modulo-90 degree space) that is broad enough to make a reliable determination about the existence or absence of complex anisotropy. Measurements from stations with inadequate azimuthal coverages are excluded in this study, for the following reasons. As demonstrated below, a large portion of the study area possesses complex anisotropy and consequently, the splitting parameters are systematic functions of the back-azimuth of the events (Silver and Savage, 1994). For stations with complex anisotropy, station-averaged measurements or measurements from events in one or a few narrow azimuthal bands cannot correctly represent the true characteristics of the anisotropy structure (e.g., Gao and Liu, 2009 for a station on the southern Tibetan Plateau and Yang et al., 2014 for many stations on the North American craton). Obviously, those measurements are valuable only when a model of simple anisotropy exists beneath a station. However, adequate azimuthal coverage is required in order to rule out the existence of complex anisotropy and therefore, in areas with potentially wide-spread complex anisotropy, only stations with adequate azimuthal coverages should be used to investigate seismic anisotropy.

Of the high-quality rank A and B measurements from the 25 stations, 1322 are SKS, 593 are SKKS and 174 are PKS measurements. Most of the SKS measurements arrive from within a narrow BAZ range of 90-120° (Figure 2b), the SKKS from two distinct BAZ ranges of 90-110° and 270-320° (Figure 2c), and PKS from within 300-310° (Figure 2d). One of the most striking characteristics of the observed splitting parameters is a good azimuthal coverage in all the 25 stations (Figure 3-27) and systematic azimuthal

variation with a 90^0 periodicity, as demonstrated by 15 stations SKS events recorded by the same station. Such azimuthal variations can also be observed when the measurements are displayed above the ray piercing point (Figure 28).

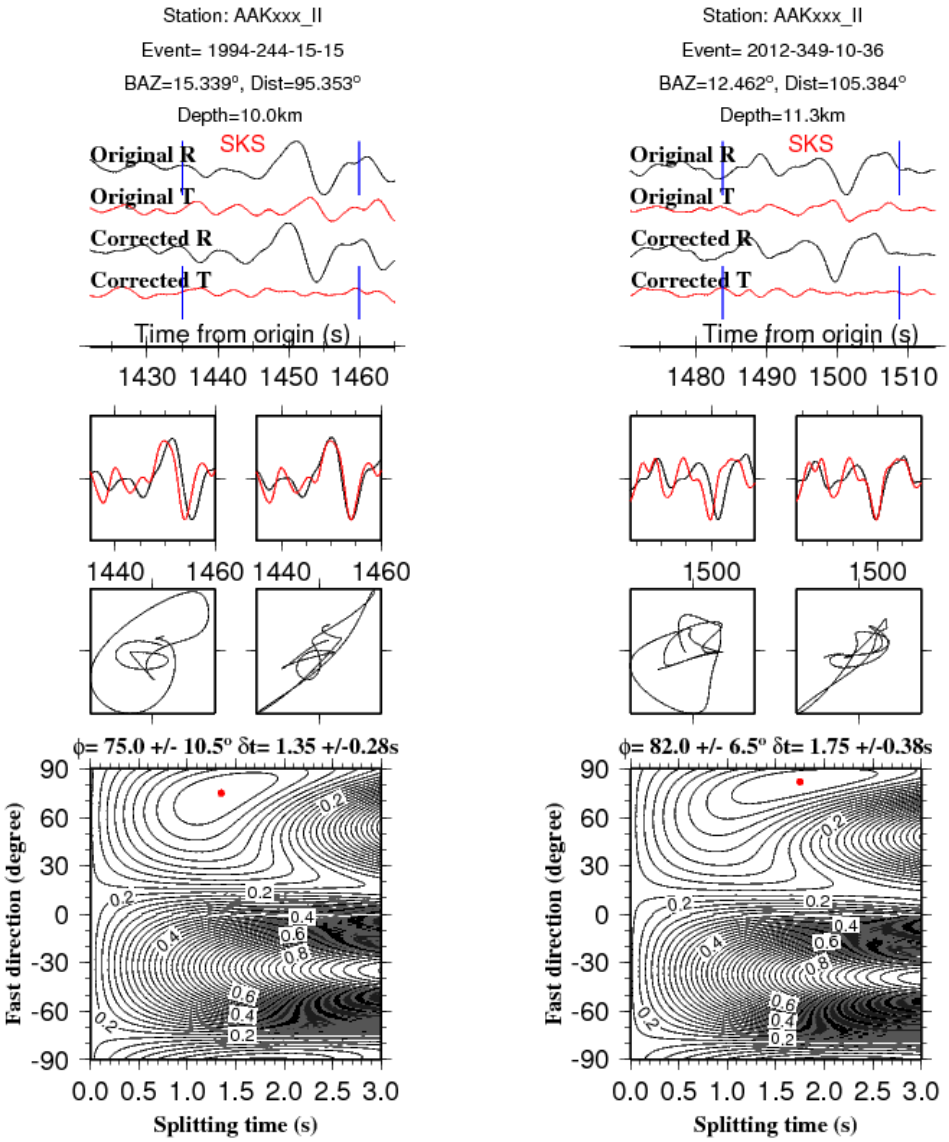

Figure 3: Left and right panels are examples of well-defined quality measurements from station AAK, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

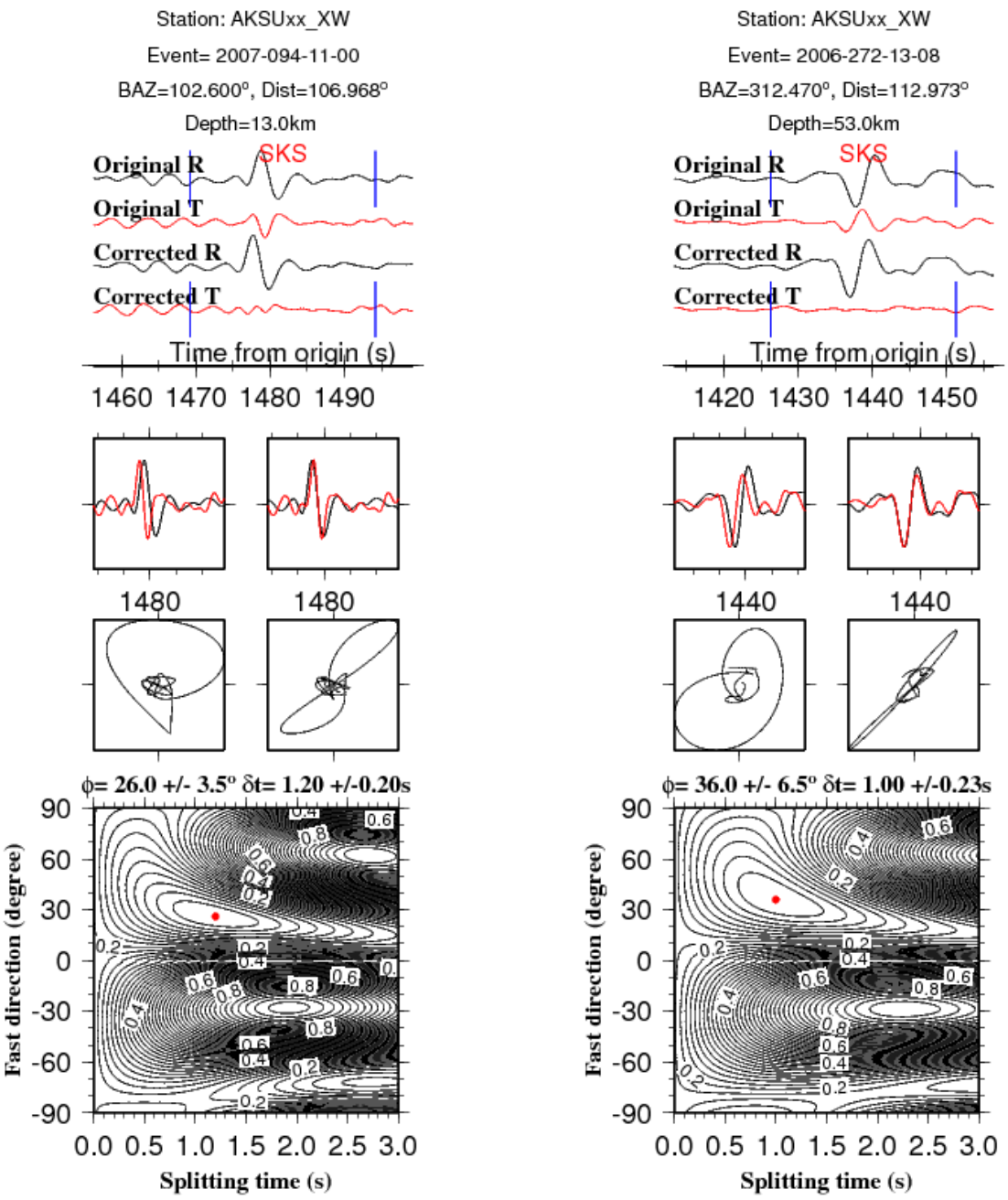

Figure 4: Left and right panels are examples of well-defined quality measurements from station AKSU, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

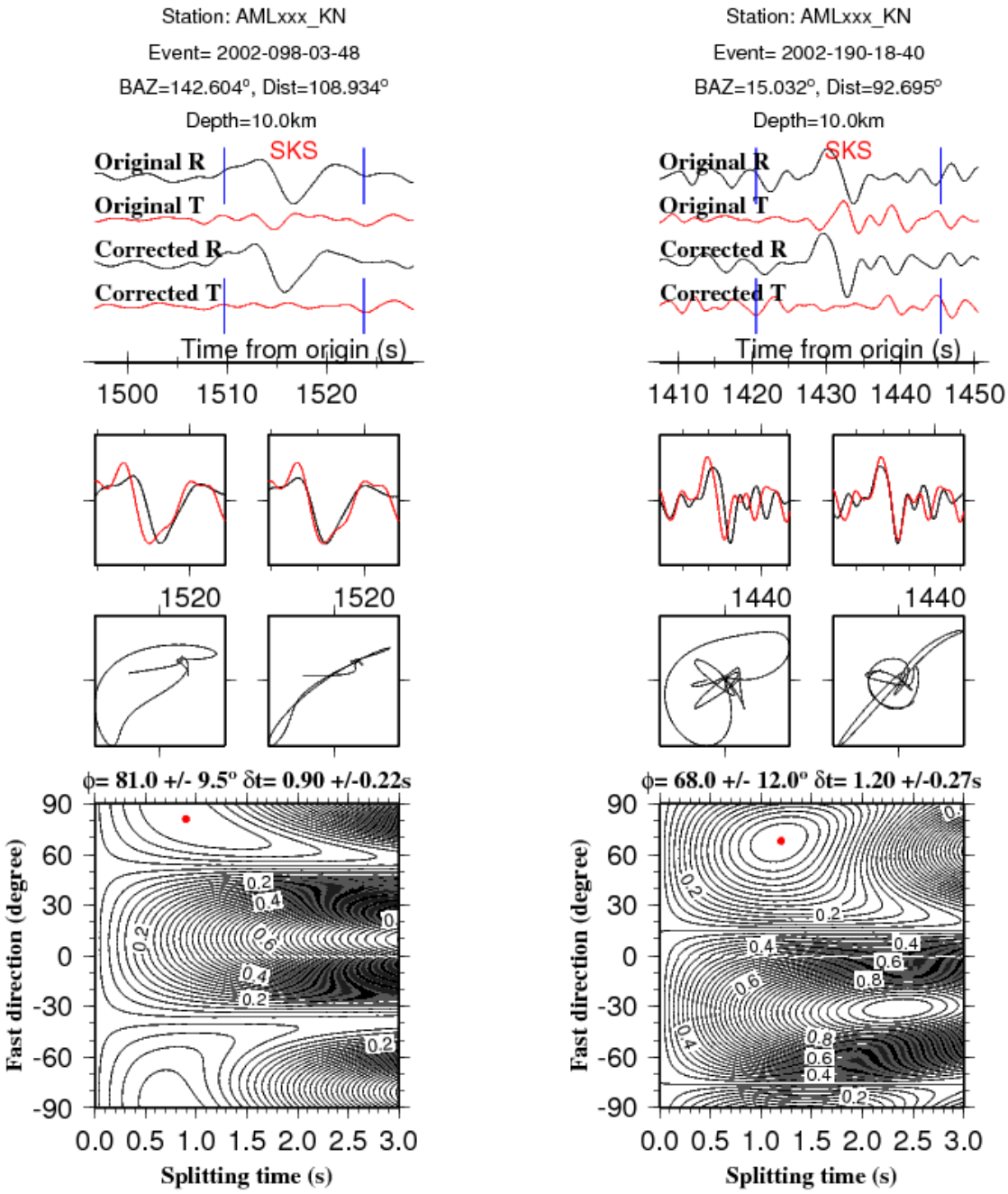

Figure 5: Left and right panels are examples of well-defined quality measurements from station AML, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

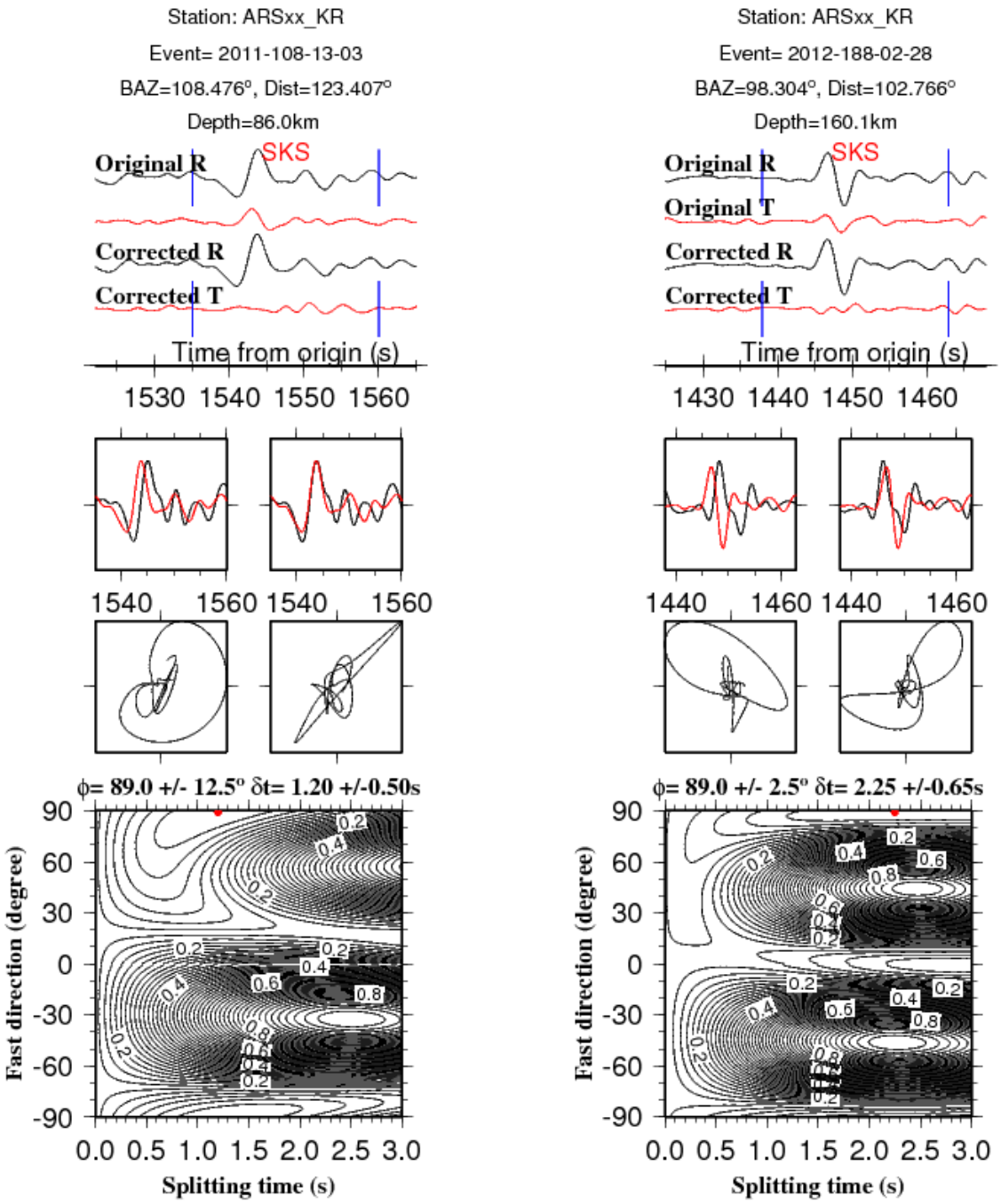

Figure 6: Left and right panels are examples of well-defined quality measurements from station ARS, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

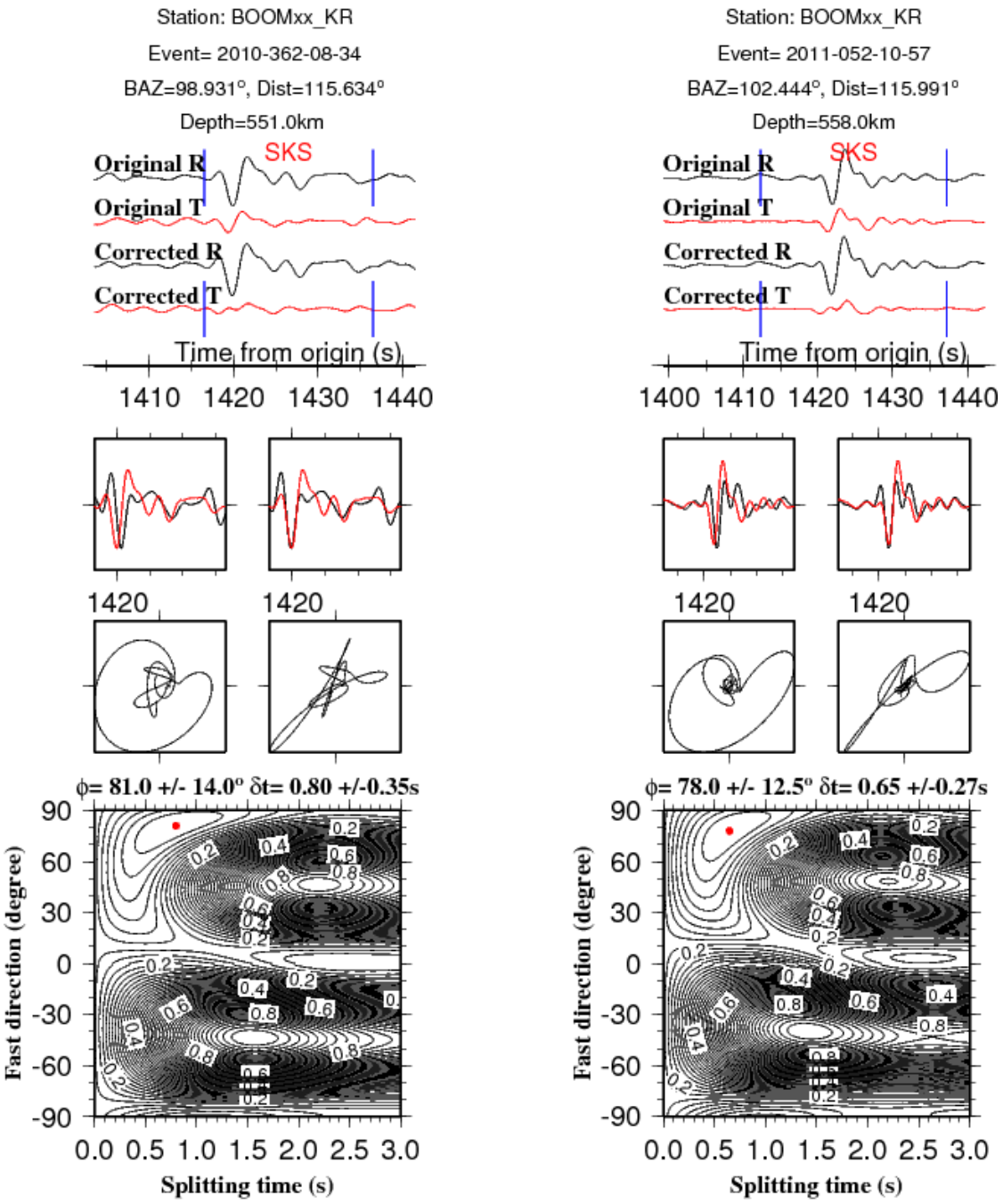

Figure 7: Left and right panels are examples of well-defined quality measurements from station BOOM, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

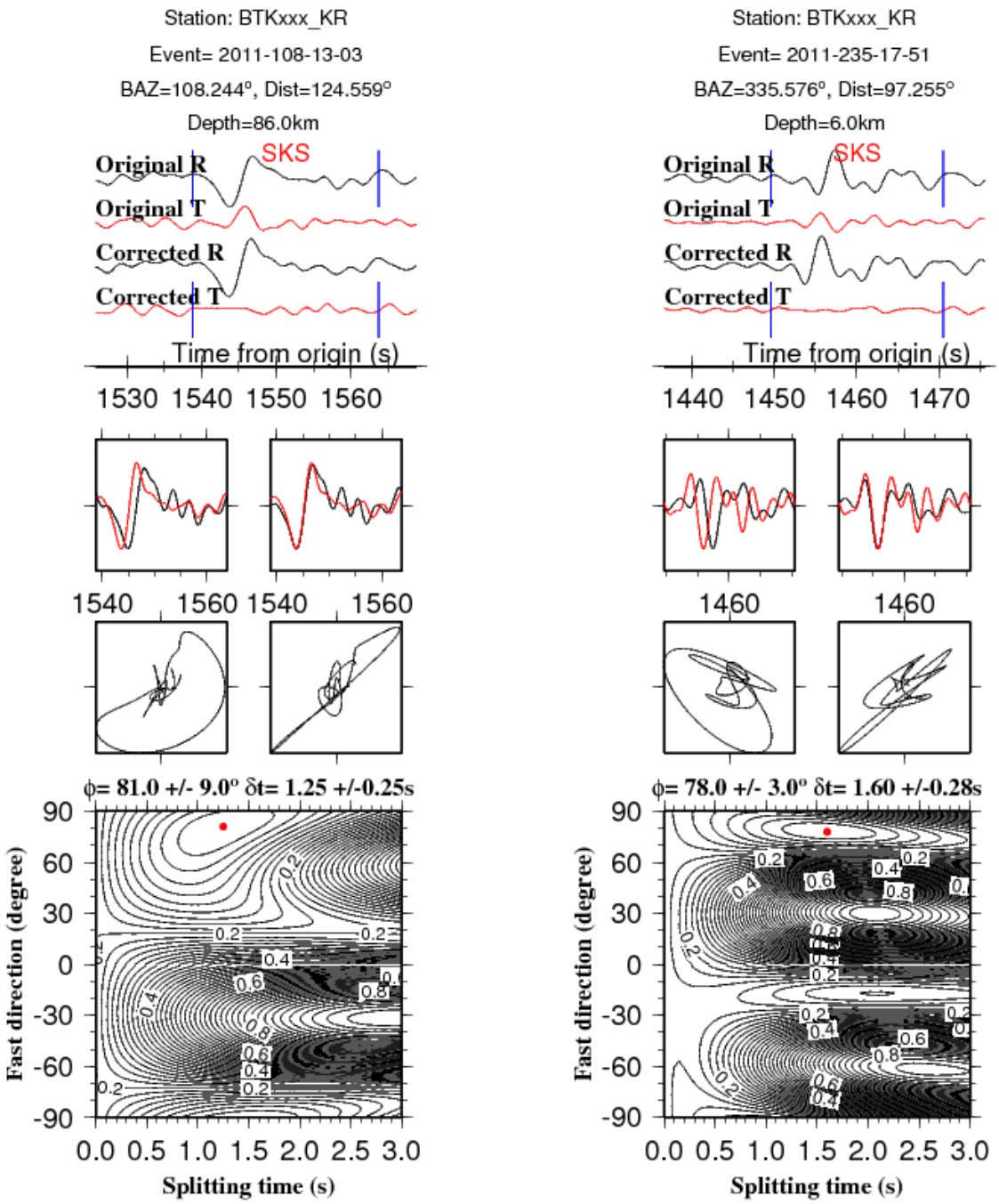

Figure 8: Left and right panels are examples of well-defined quality measurements from station BTK, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

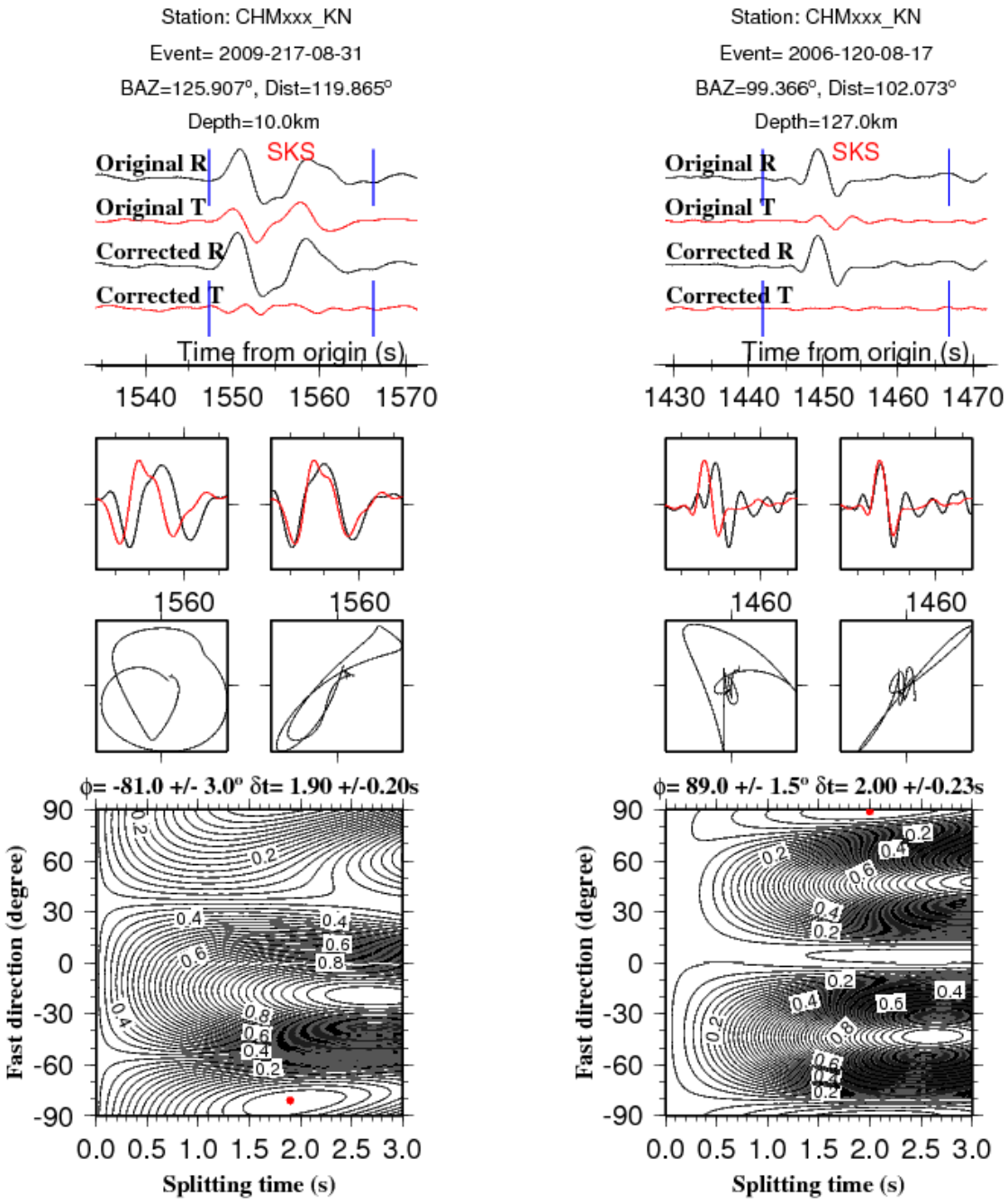

Figure 9: Left and right panels are examples of well-defined quality measurements from station CHM, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

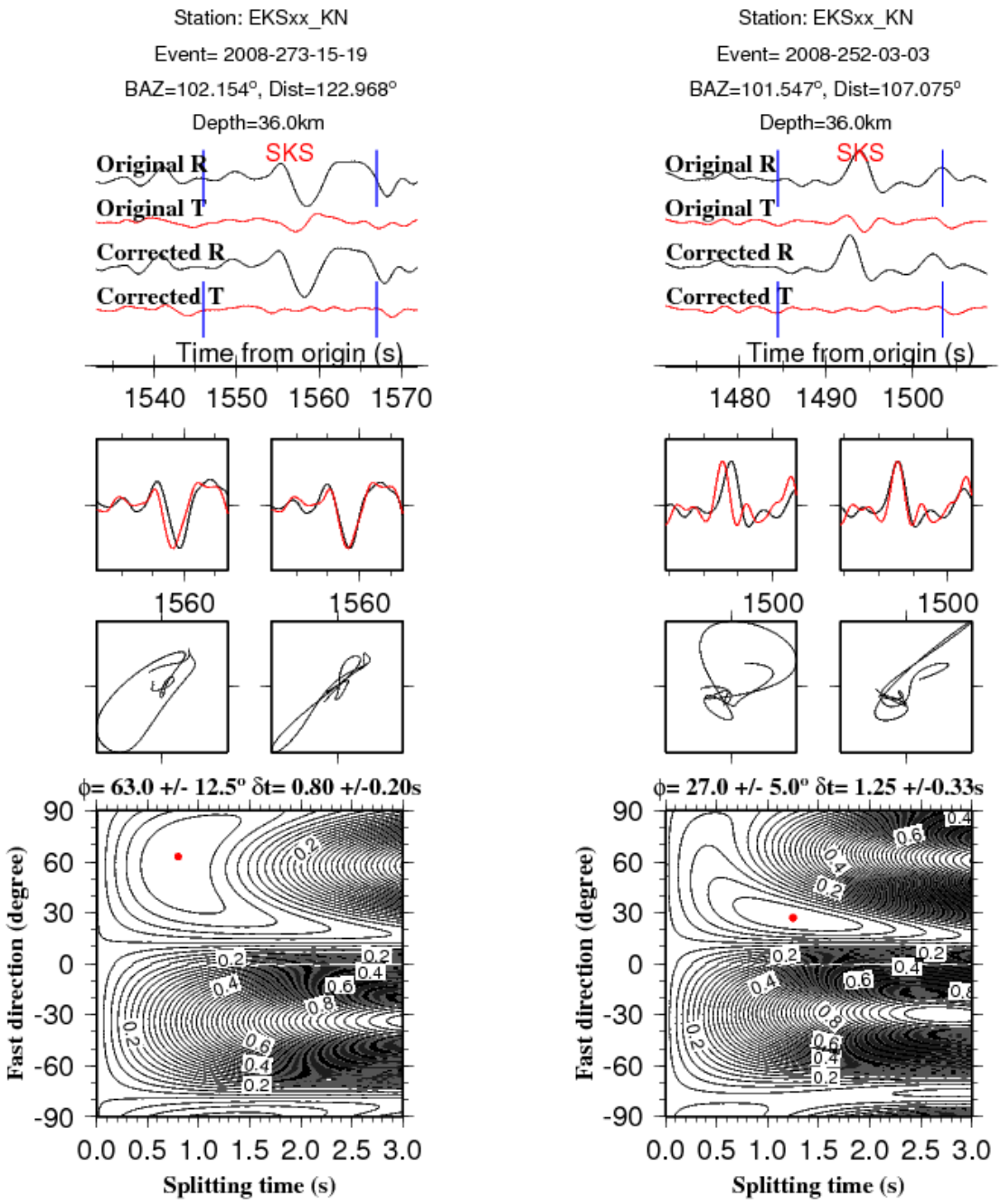

Figure 10: Left and right panels are examples of well-defined quality measurements from station EKS, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

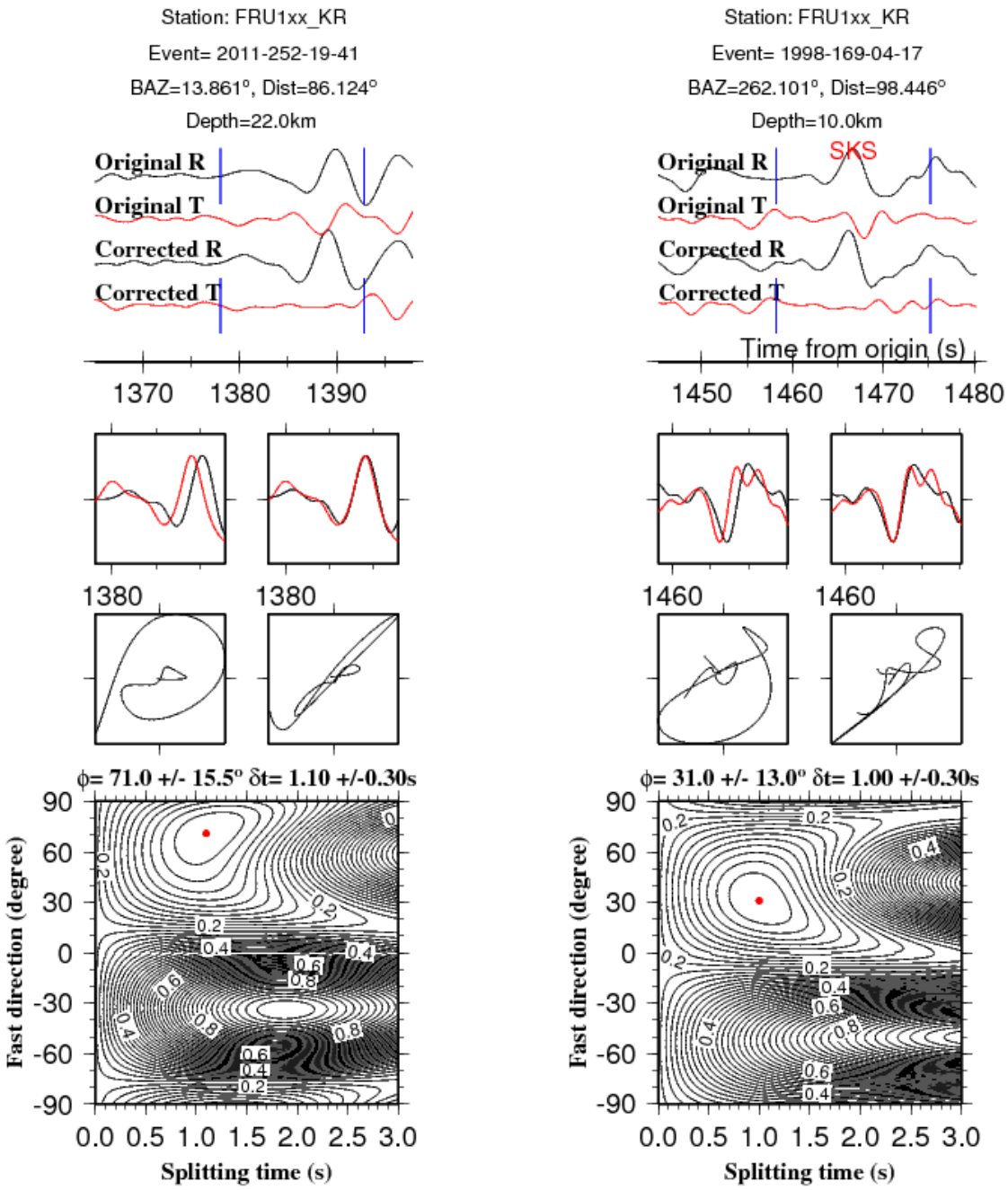

Figure 11: Left and right panels are examples of well-defined quality measurements from station FRU1, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

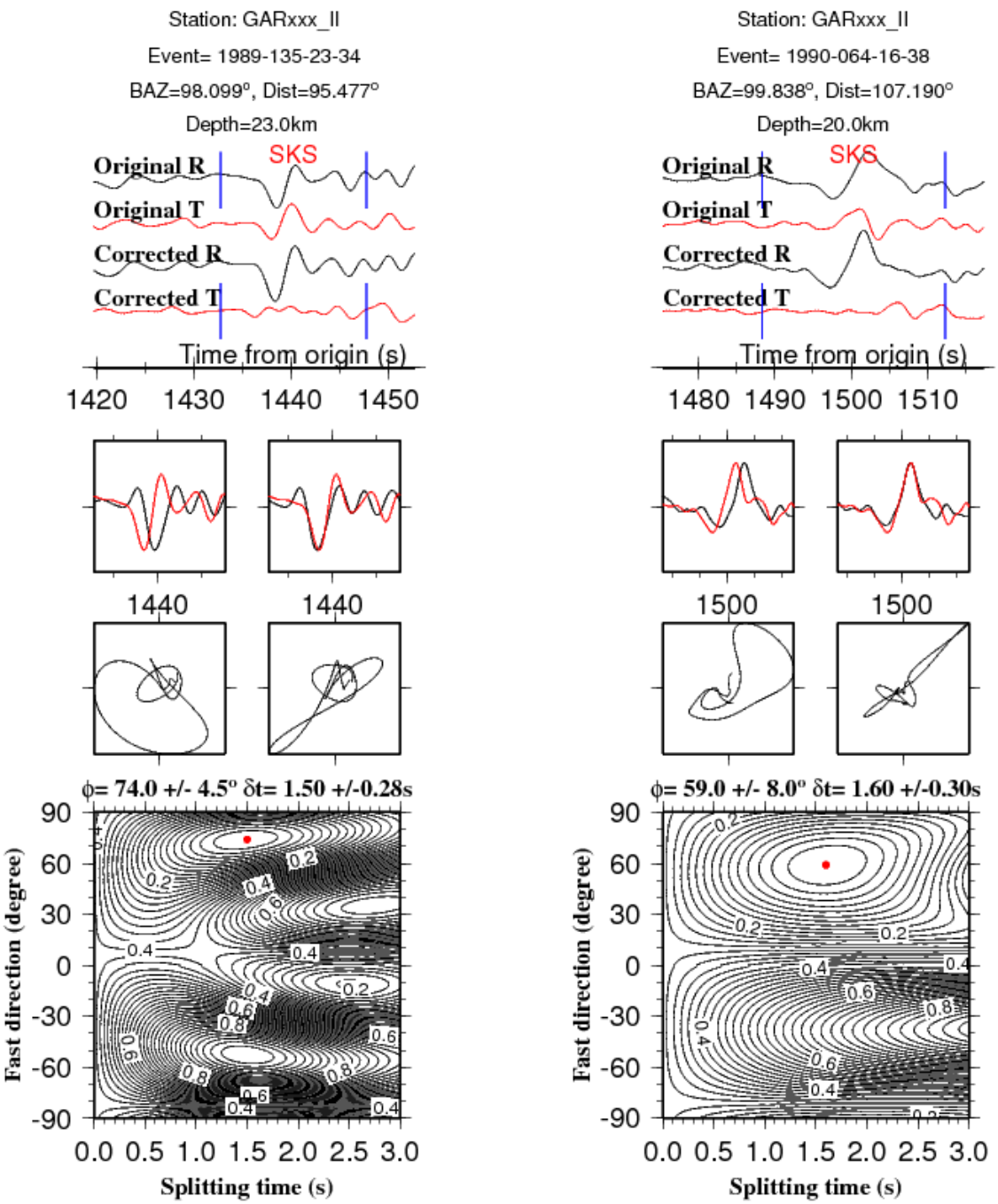

Figure 12: Left and right panels are examples of well-defined quality measurements from station GAR, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

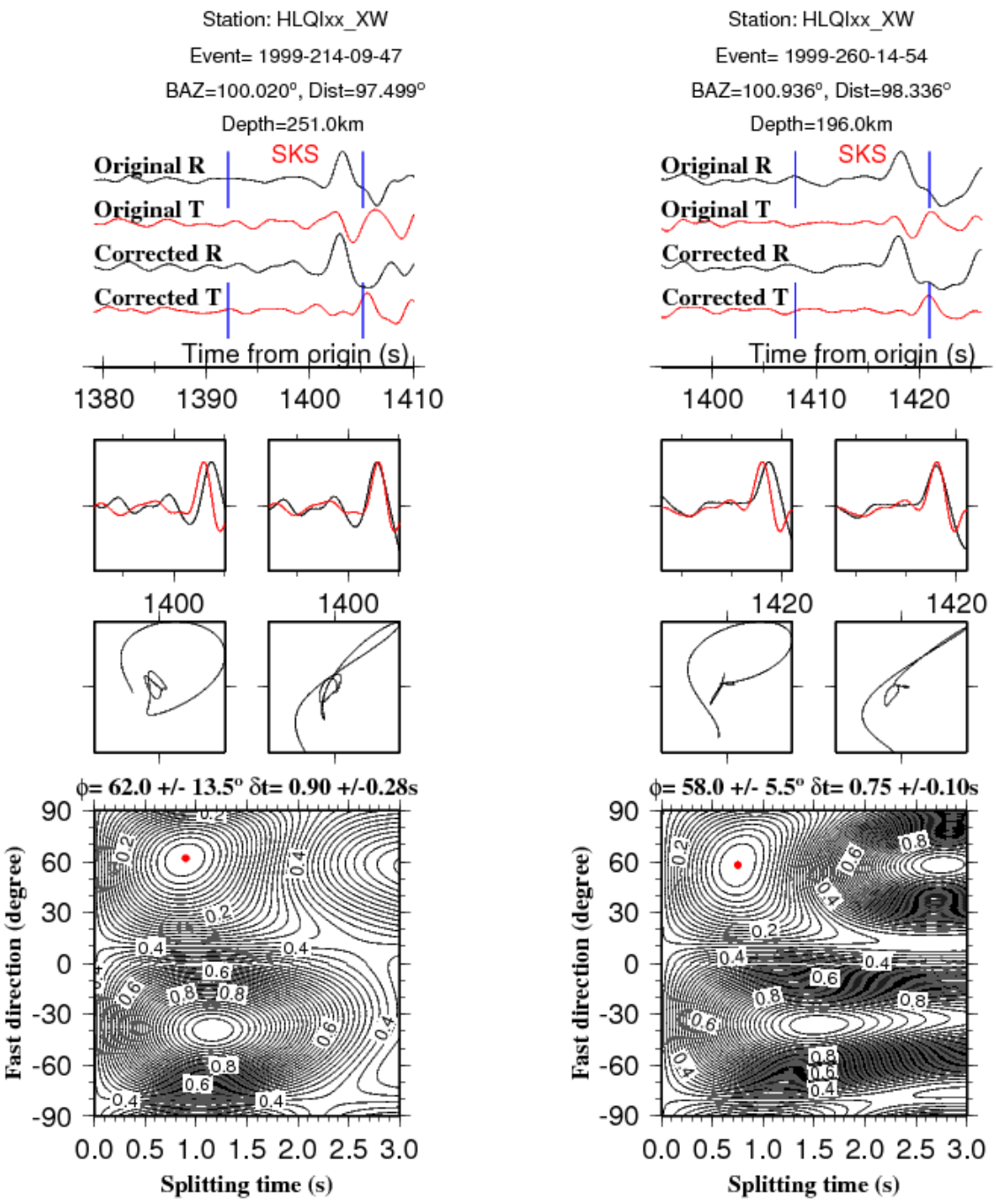

Figure 13: Left and right panels are examples of well-defined quality measurements from station HLQI, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

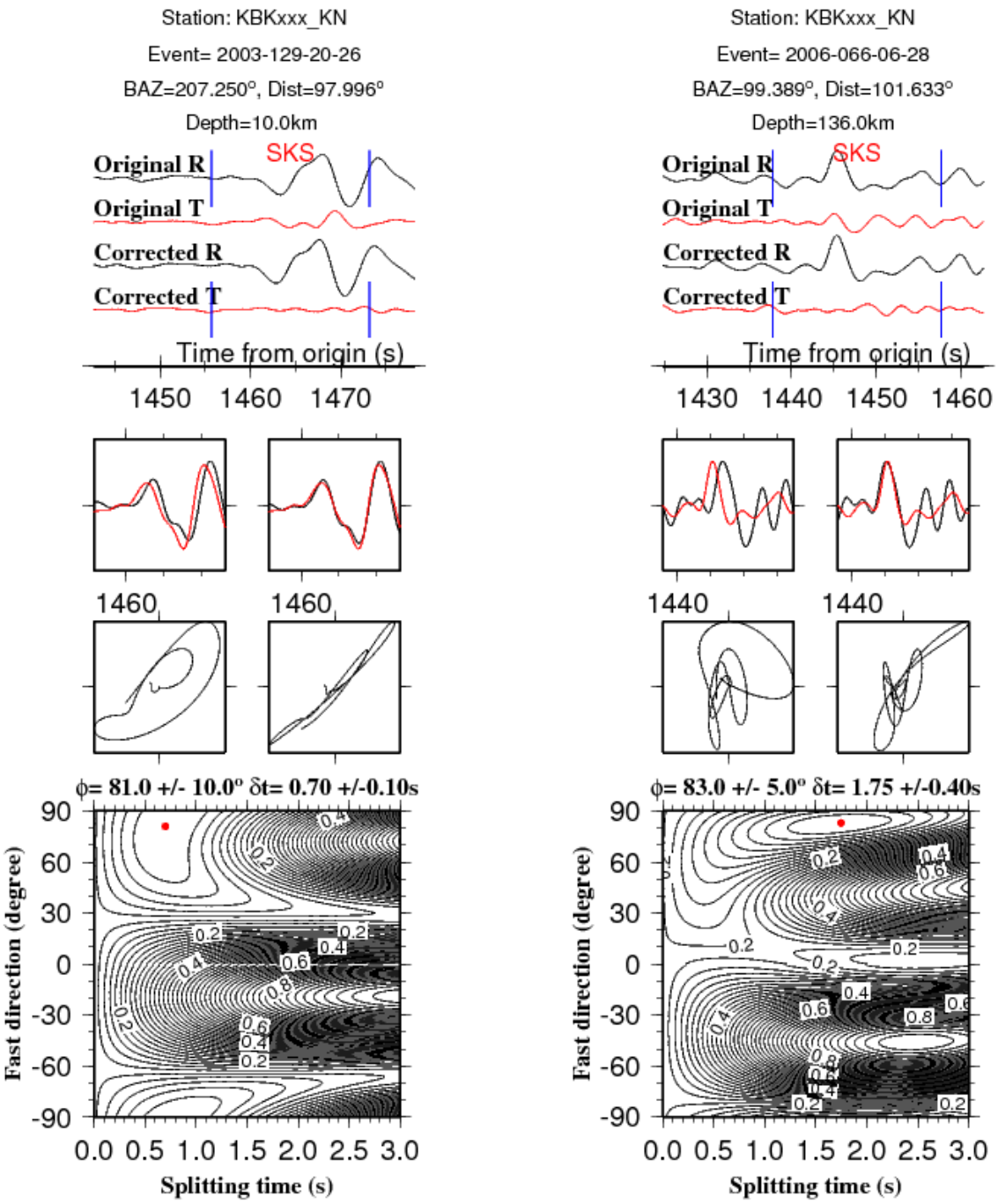

Figure 14: Left and right panels are examples of well-defined quality measurements from station KBK, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

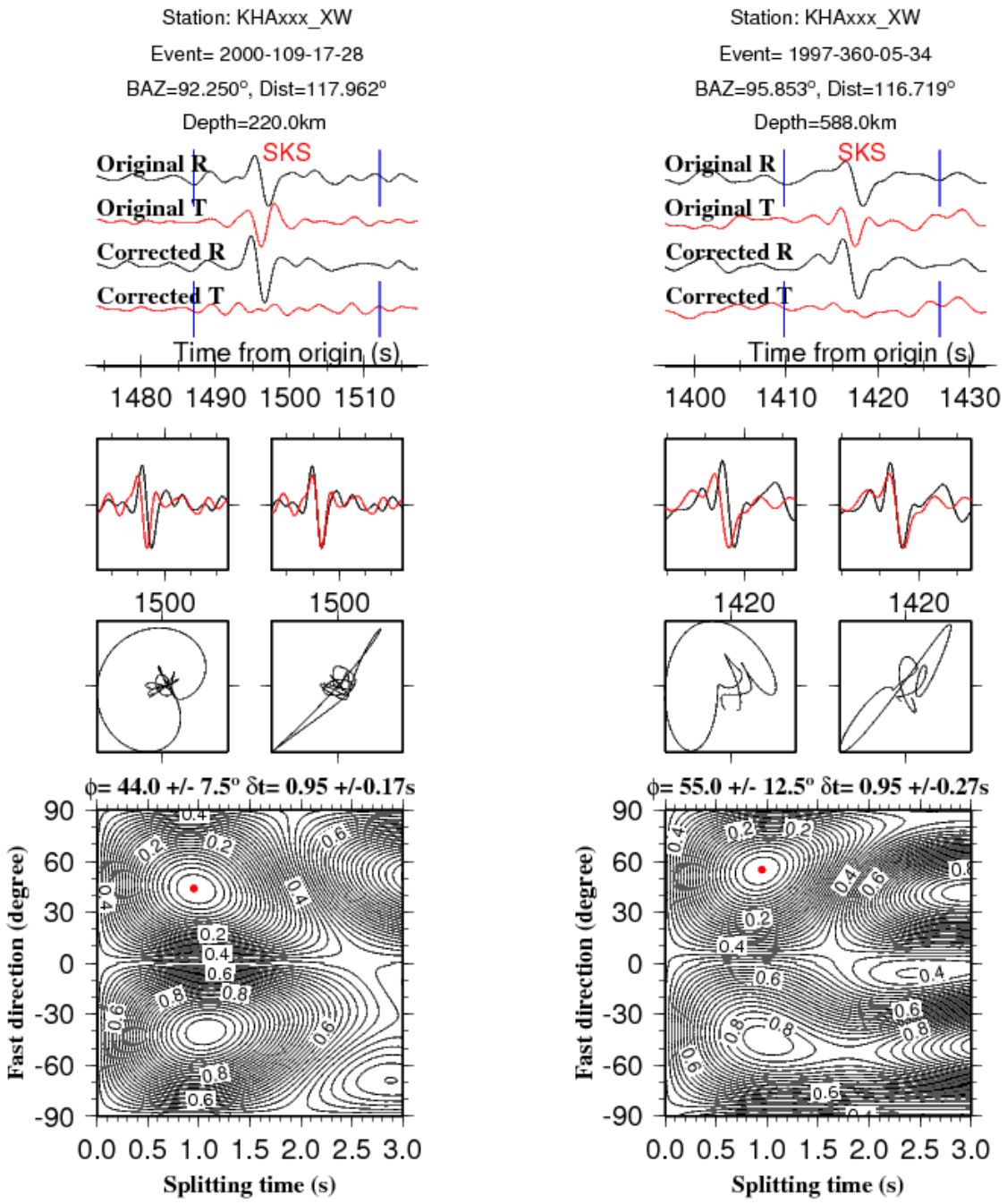

Figure 15: Left and right panels are examples of well-defined quality measurements from station KHA, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

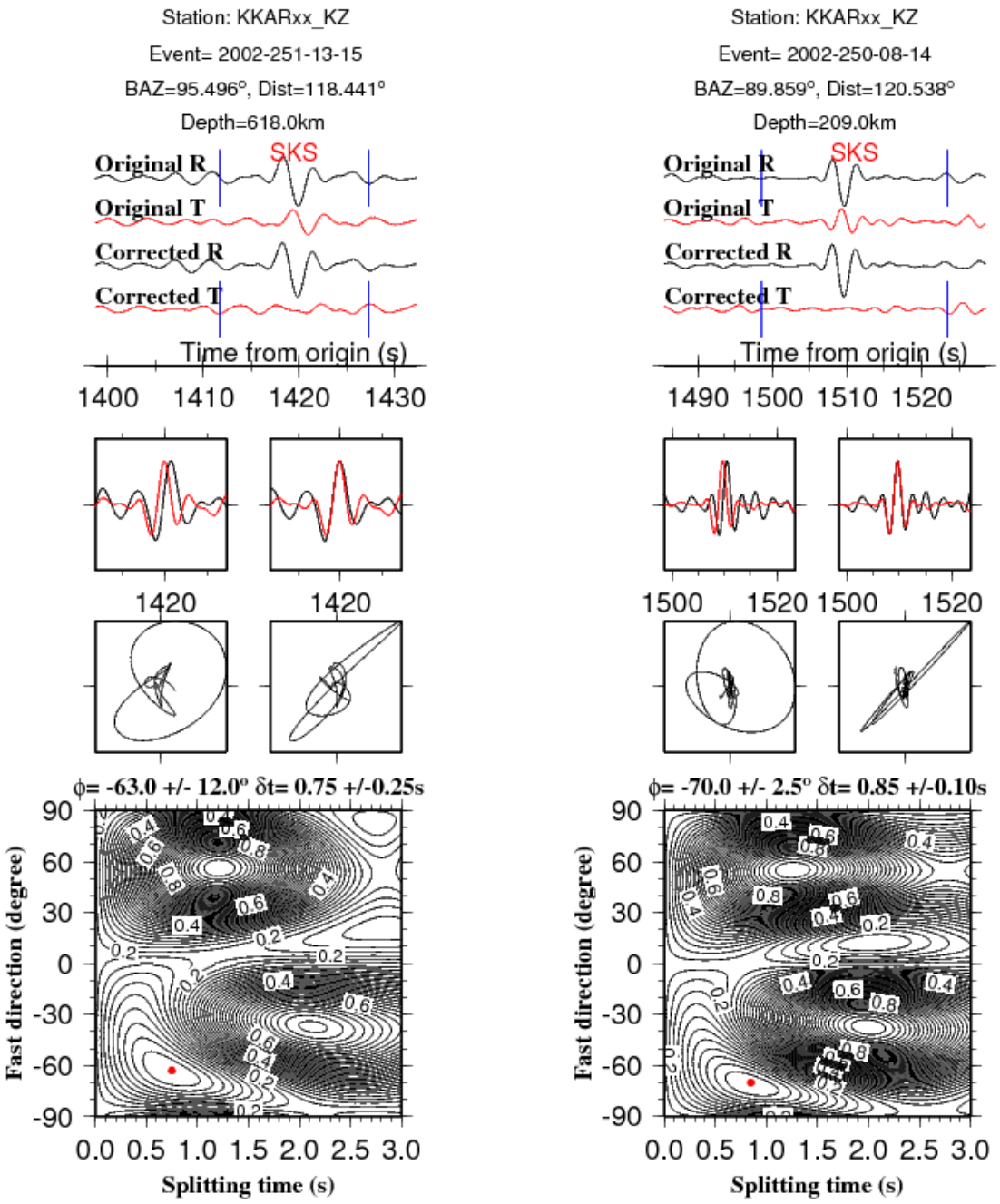

Figure 16: Left and right panels are examples of well-defined quality measurements from station KKAR, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

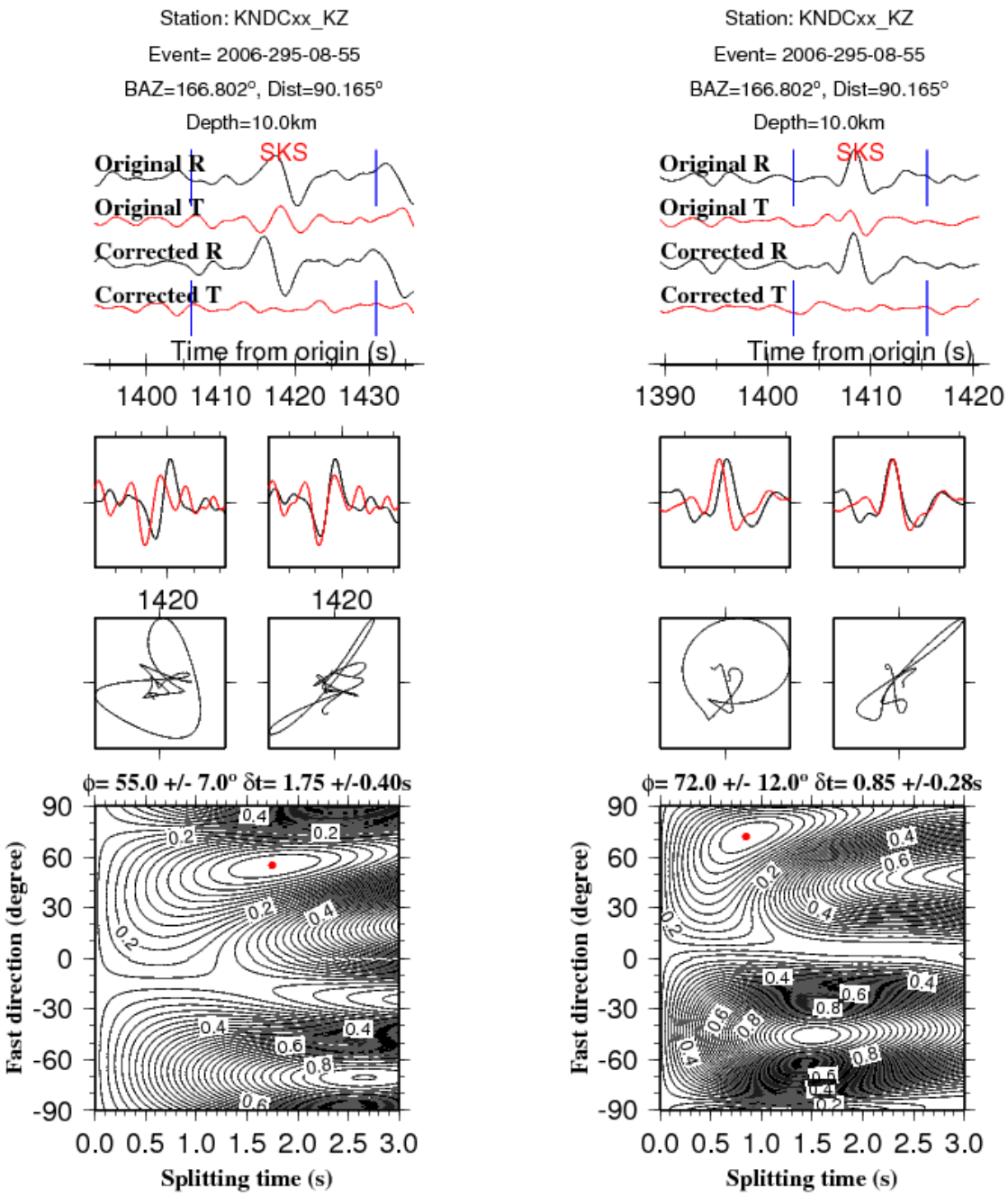

Figure 17: Left and right panels are examples of well-defined quality measurements from station KNDC, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

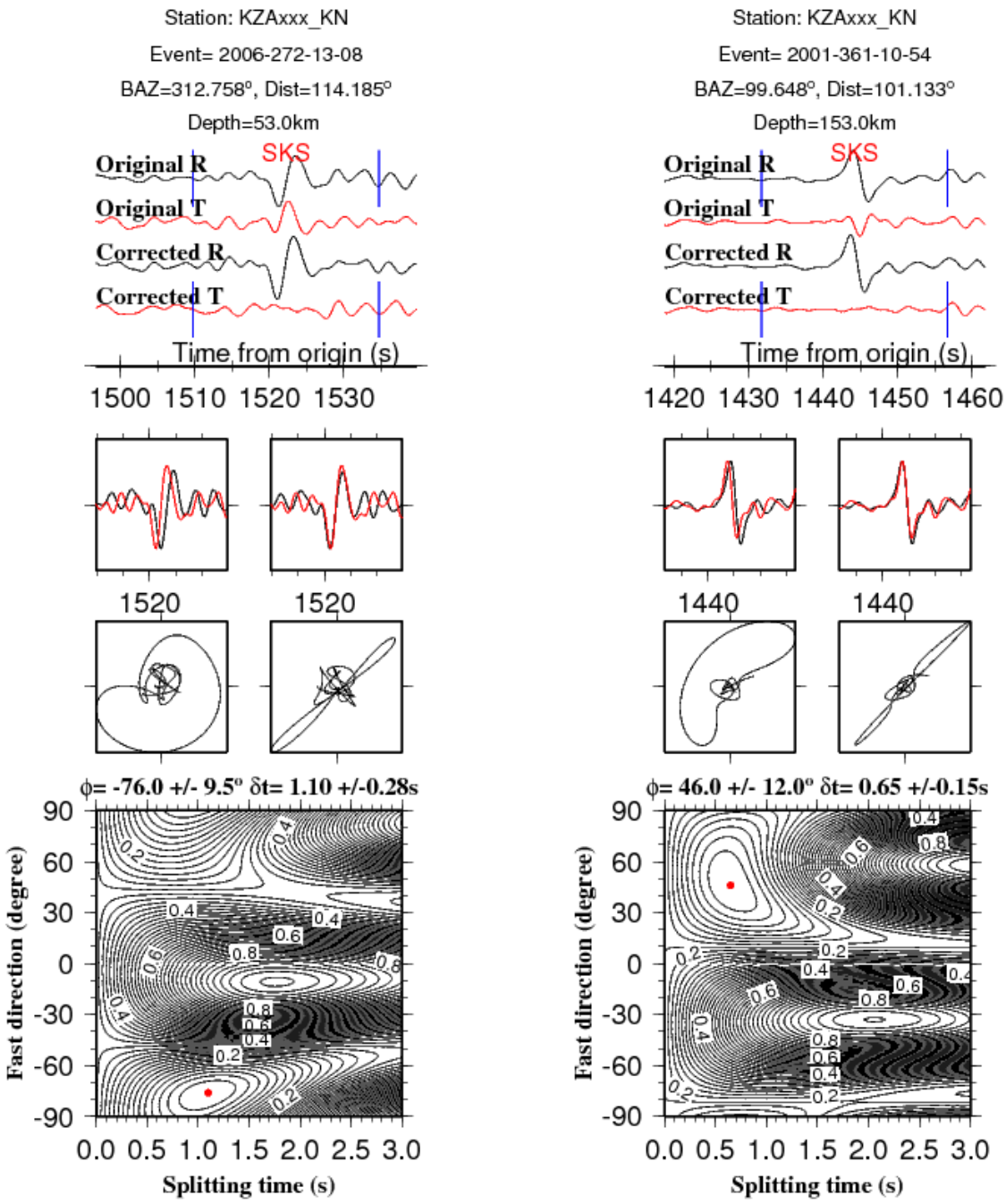

Figure 18: Left and right panels are examples of well-defined quality measurements from station KZA, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

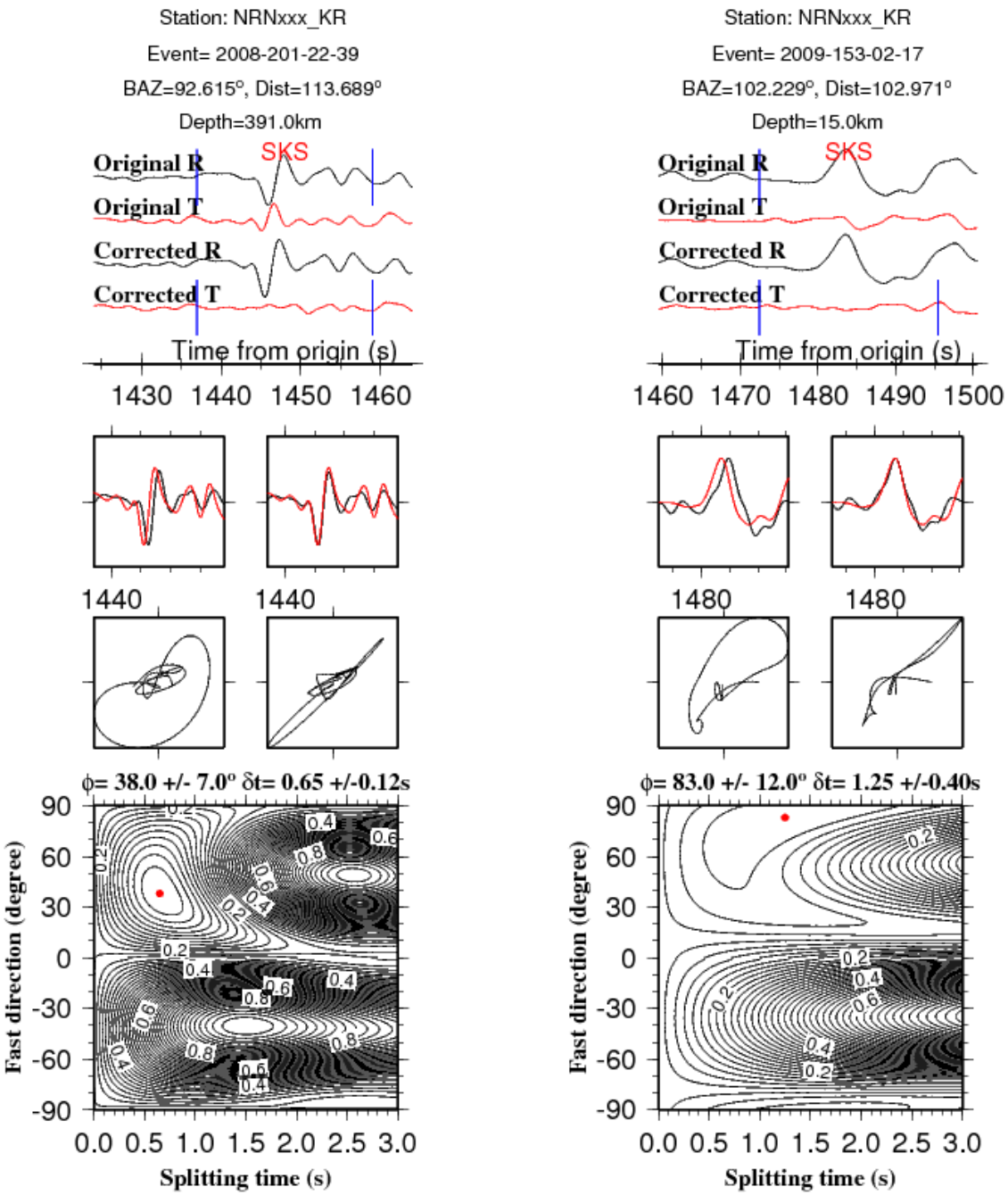

Figure 19: Left and right panels are examples of well-defined quality measurements from station NRN, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

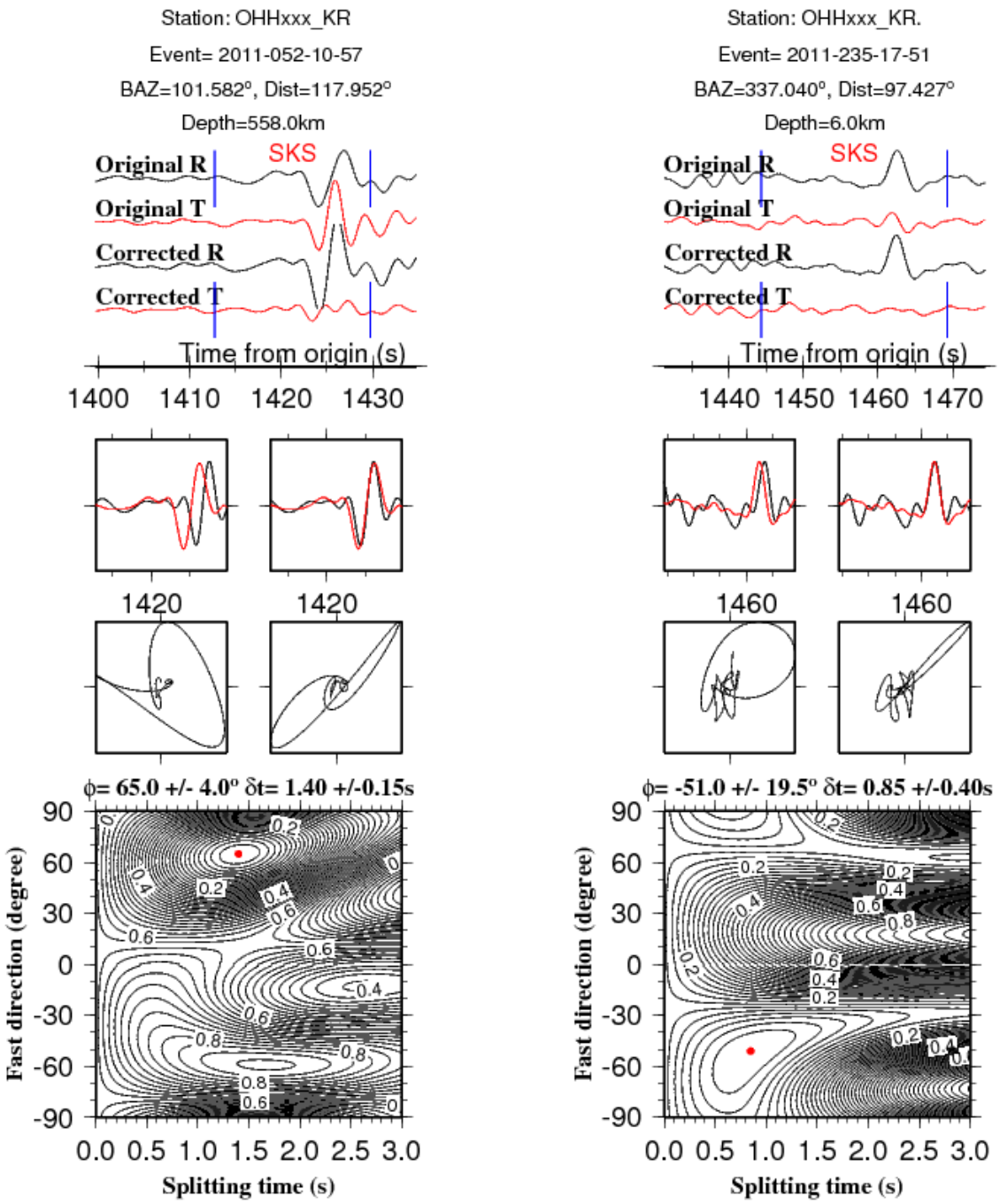

Figure 20: Left and right panels are examples of well-defined quality measurements from station OHH, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

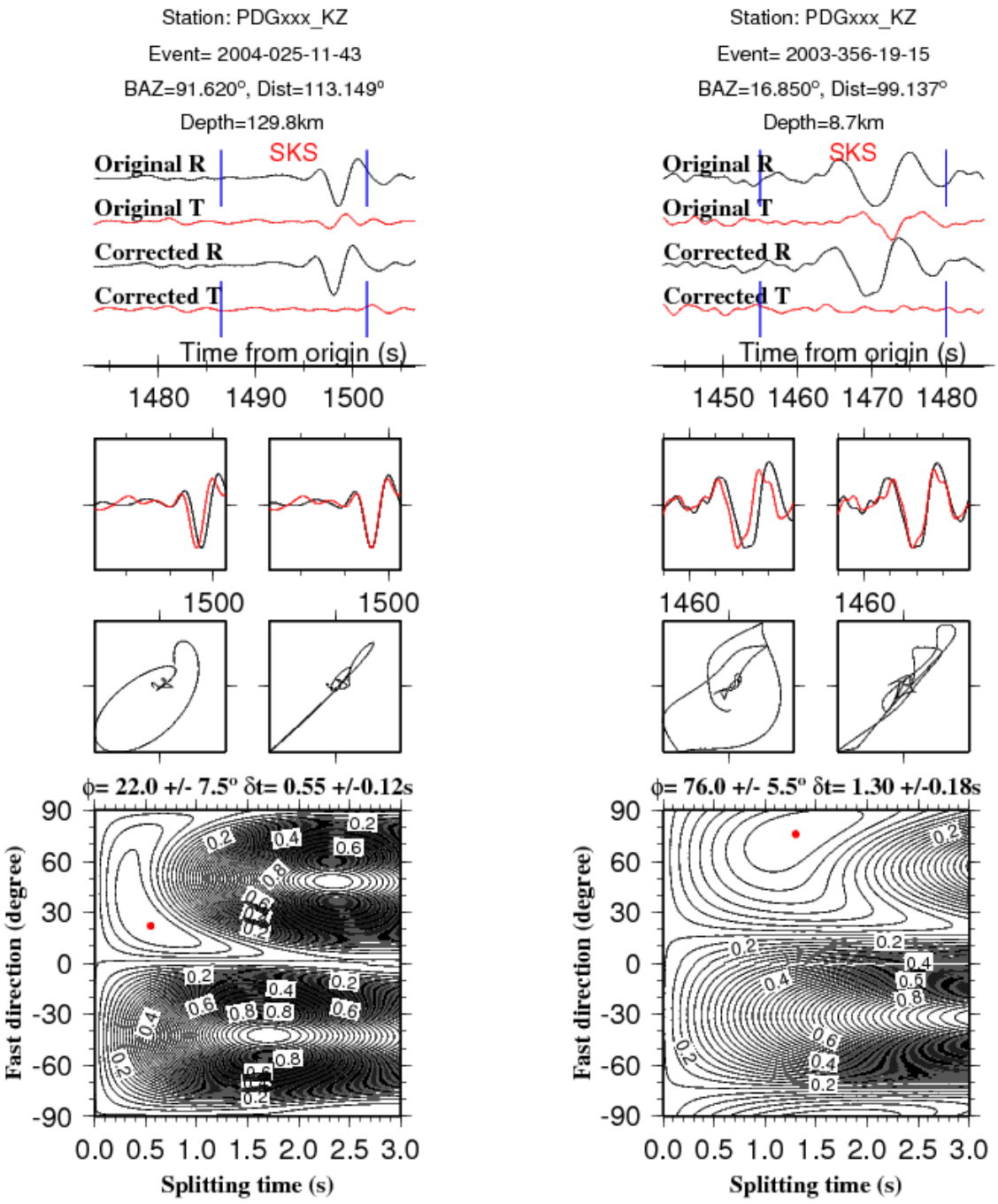

Figure 21: Left and right panels are examples of well-defined quality measurements from station PDG, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

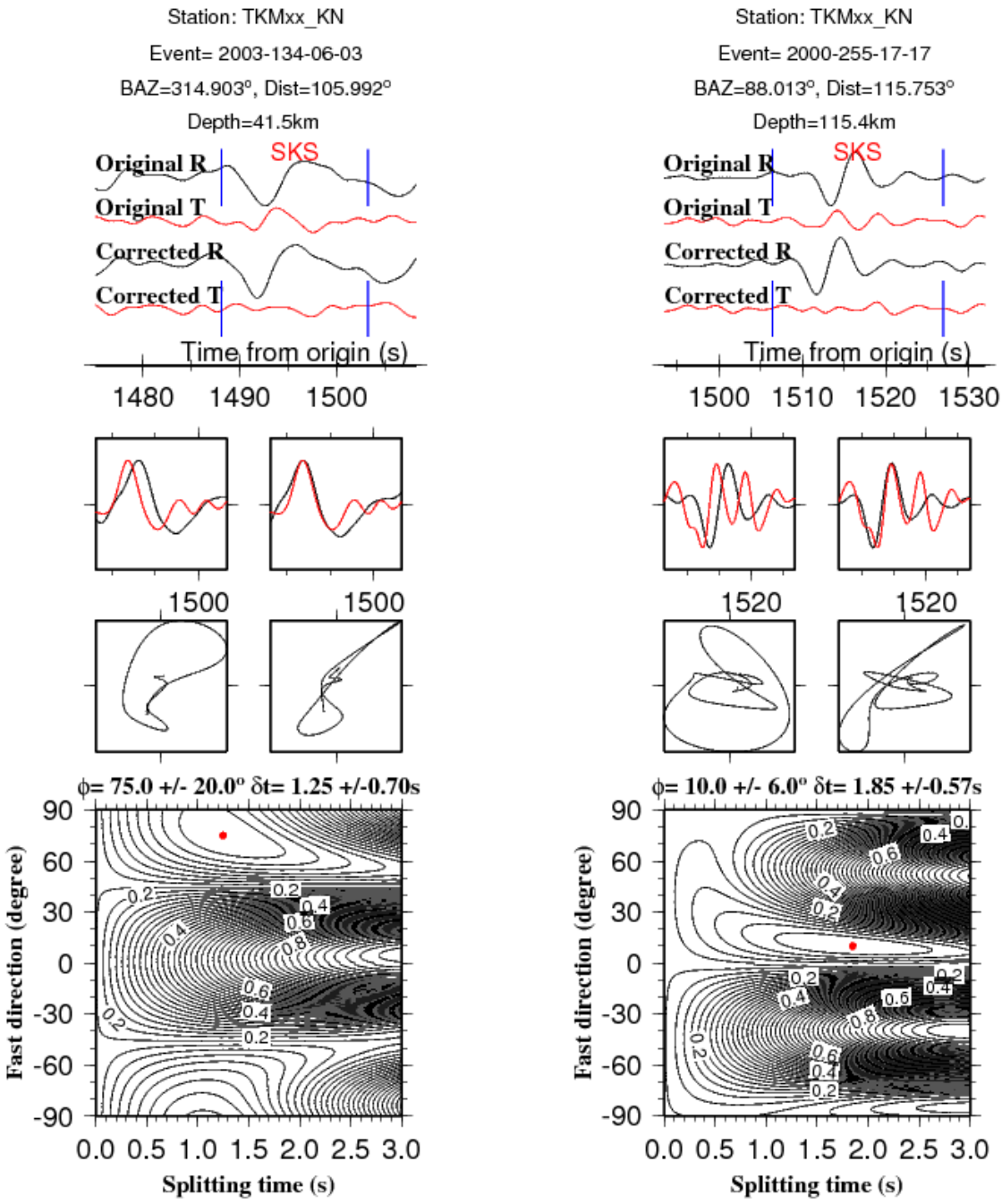

Figure 22: Left and right panels are examples of well-defined quality measurements from station TKM, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

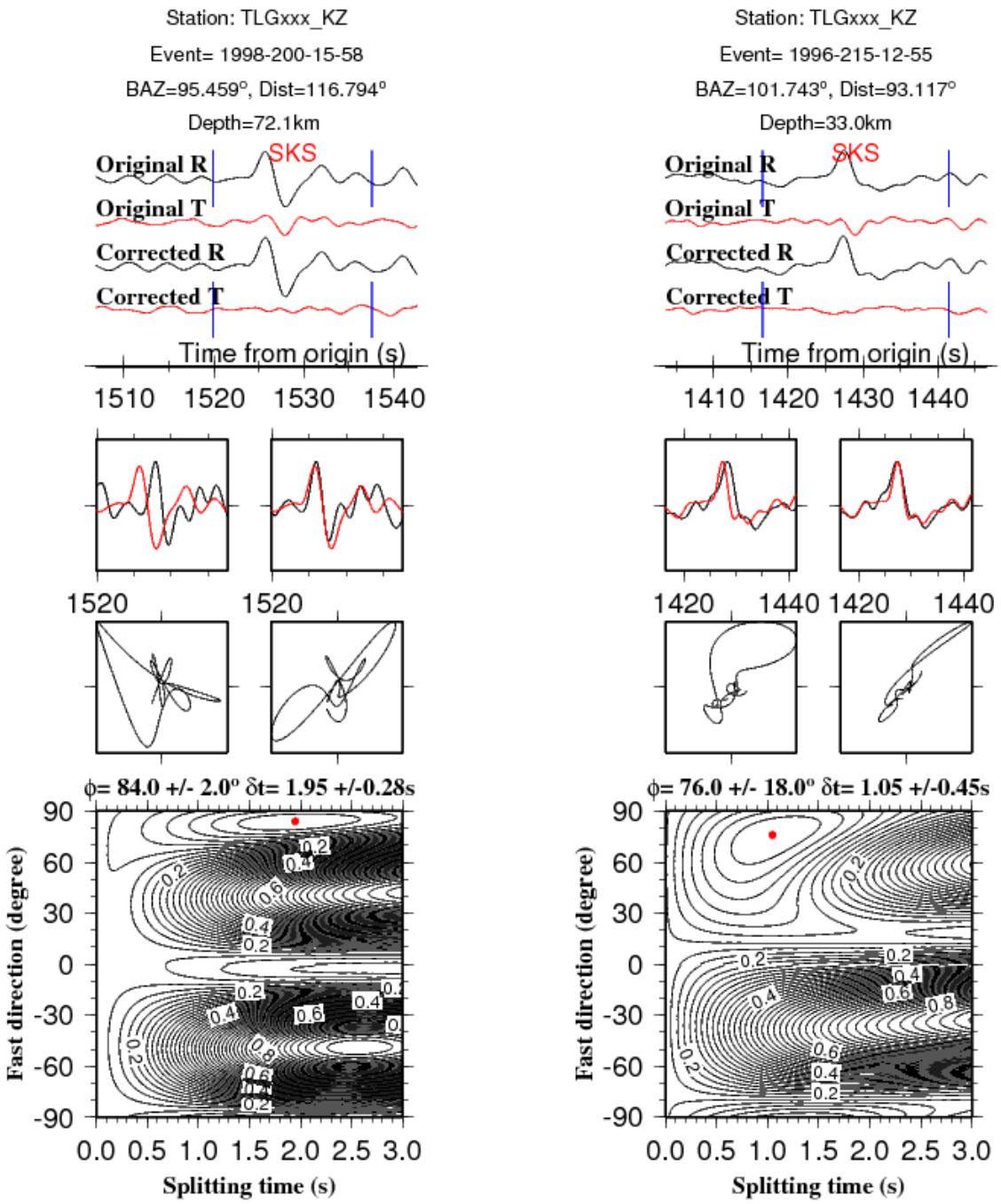

Figure 23: Left and right panels are examples of well-defined quality measurements from station TLG, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

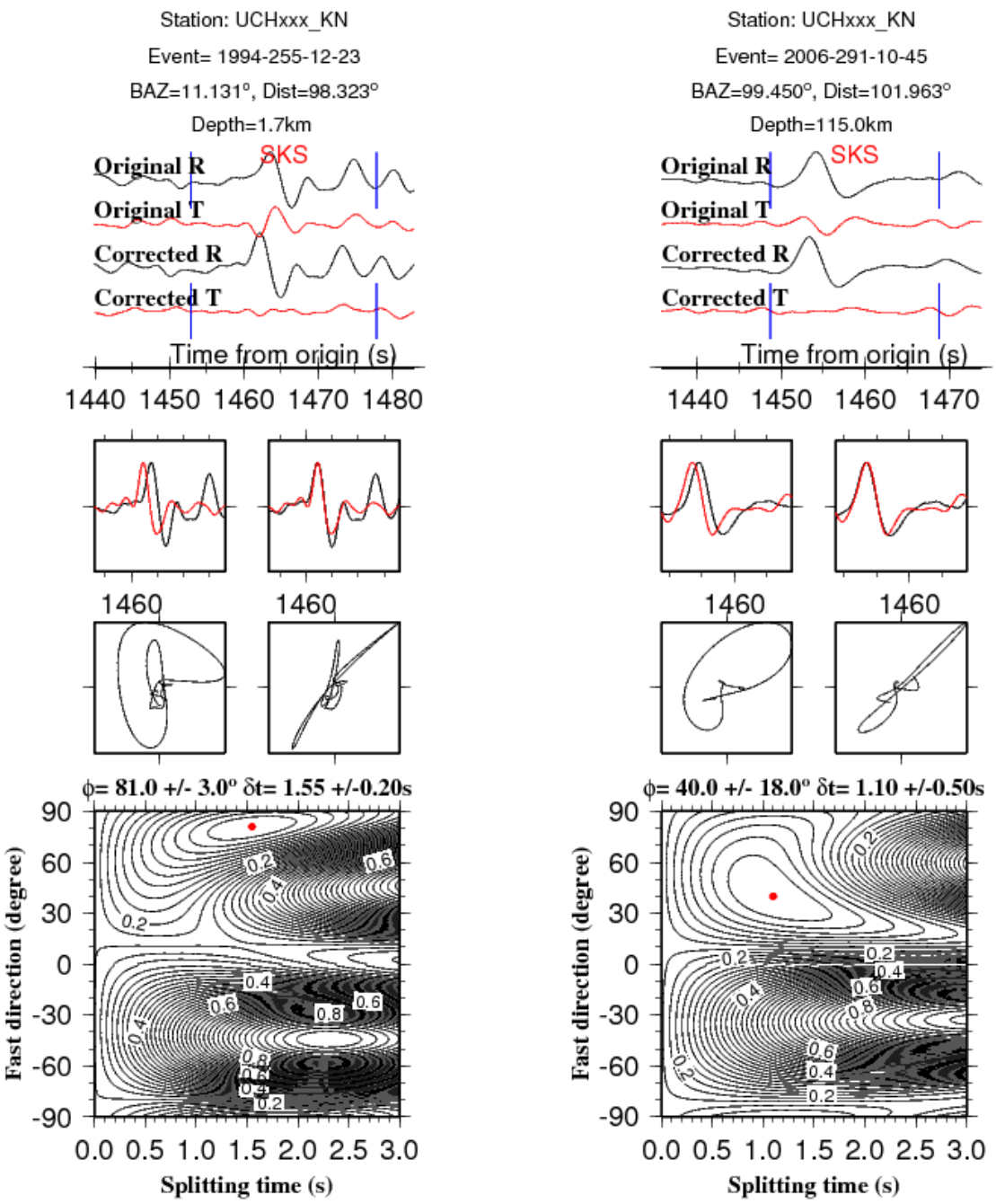

Figure 24: Left and right panels are examples of well-defined quality measurements from station UCH, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

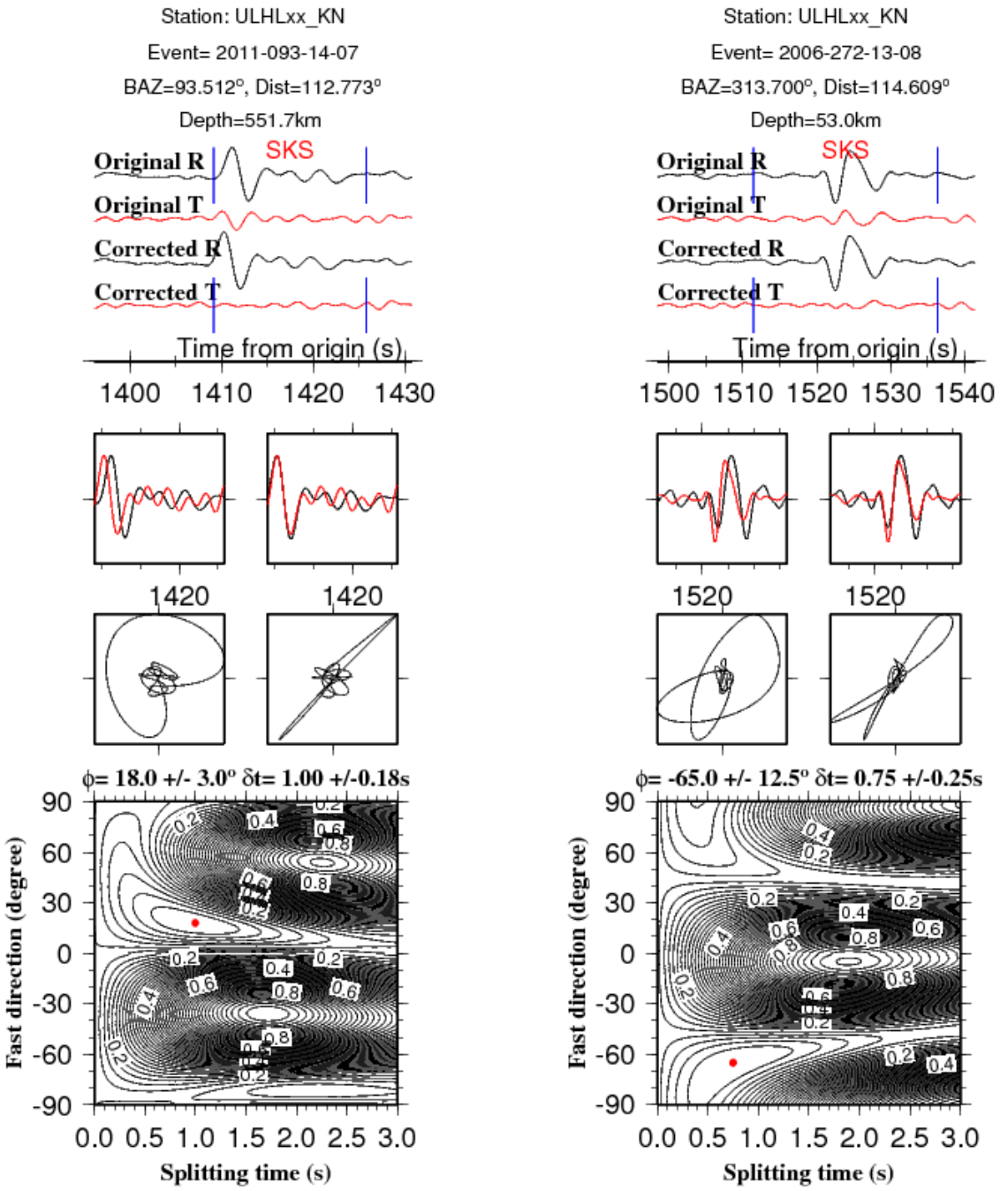

Figure 25: Left and right panels are examples of well-defined quality measurements from station ULHL, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

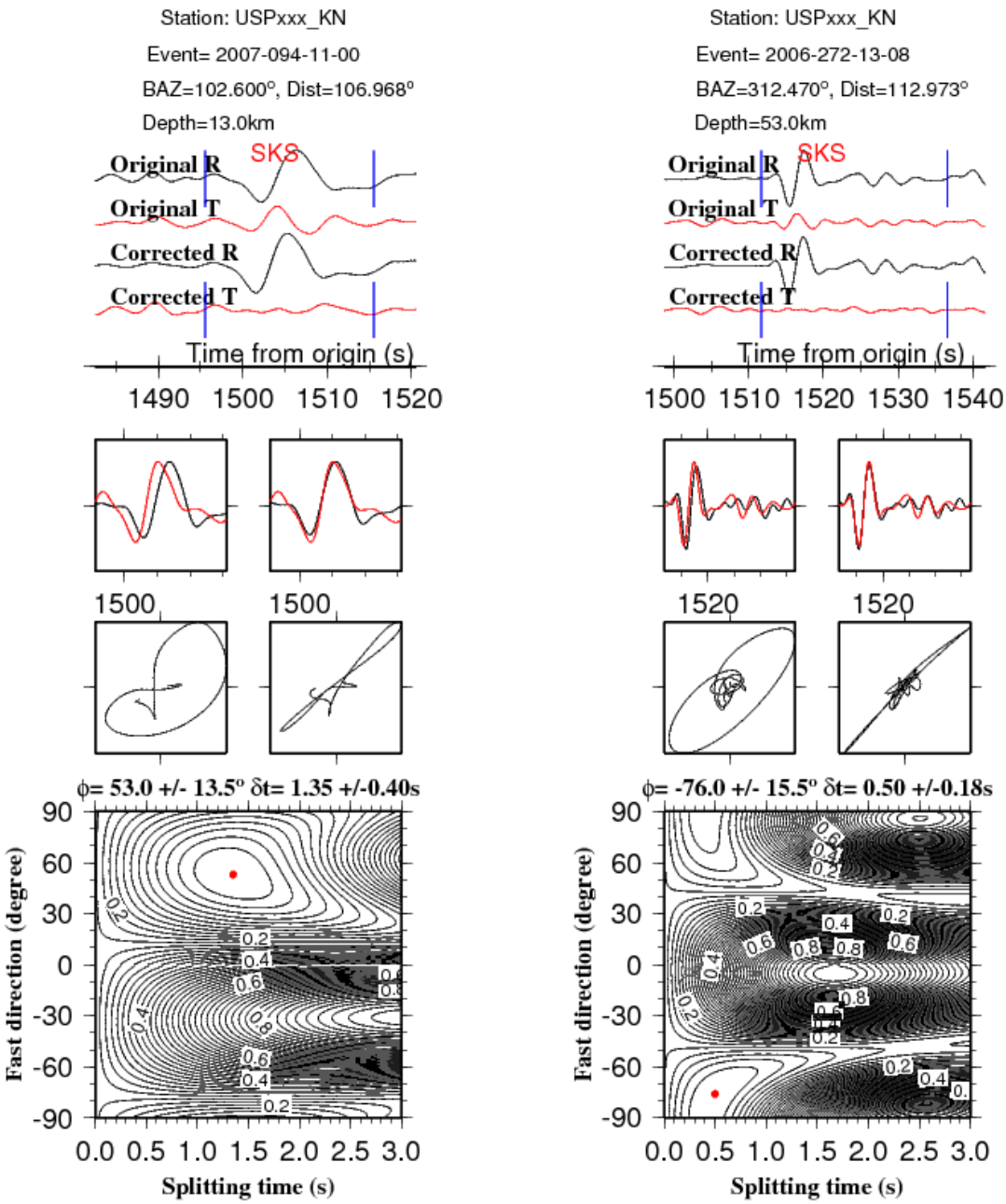

Figure 26: Left and right panels are examples of well-defined quality measurements from station USP, either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

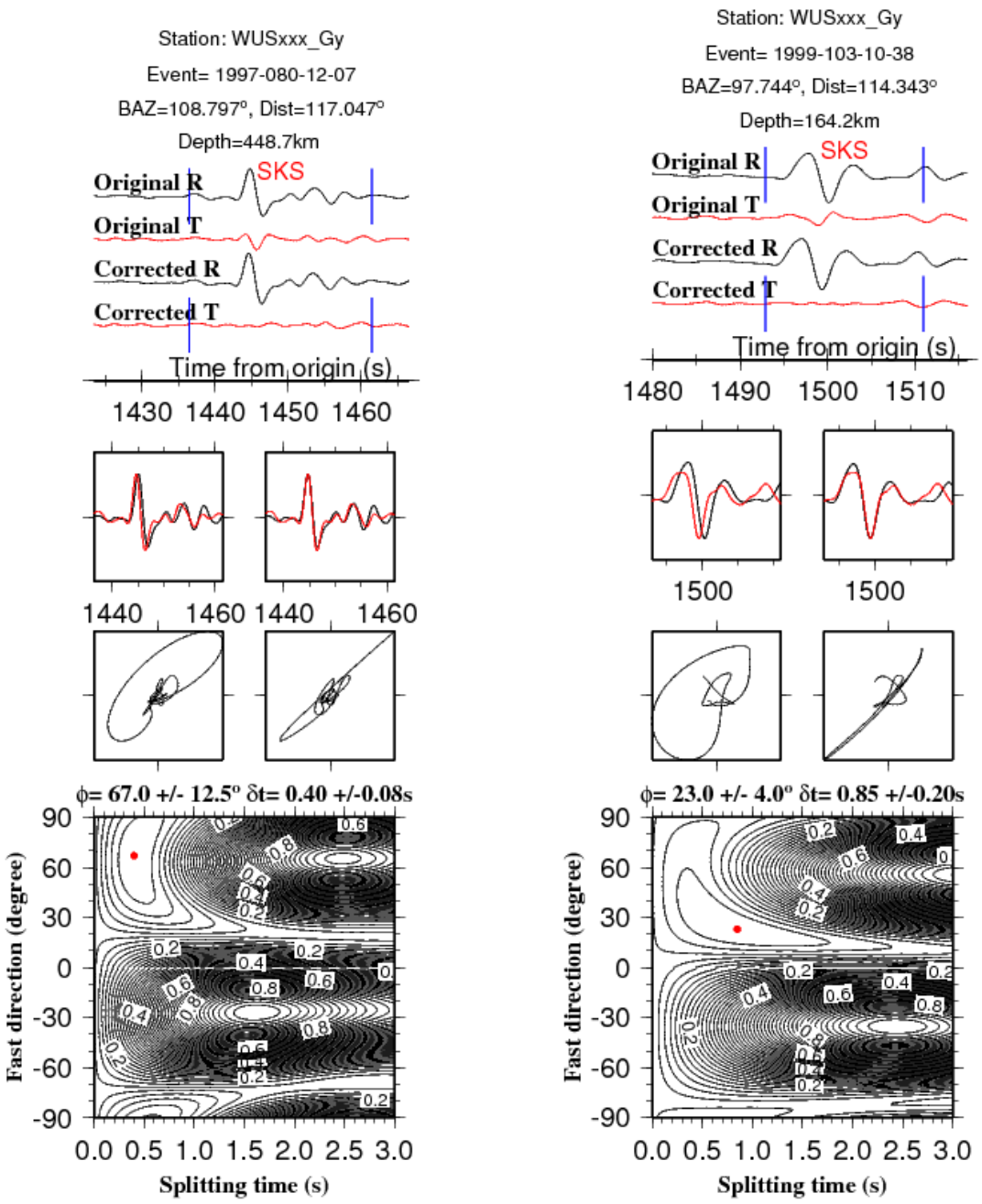

Figure 27: Left and right panels are examples of well-defined quality measurements from station WUS , either of which is characterized by different fast orientations. In each figure, original and corrected SKS seismograms (top), particle motion patterns (center) and contour map of the error function (bottom) for event are indicated. Red dots on the contour map mark the optimal splitting parameter for corresponding events

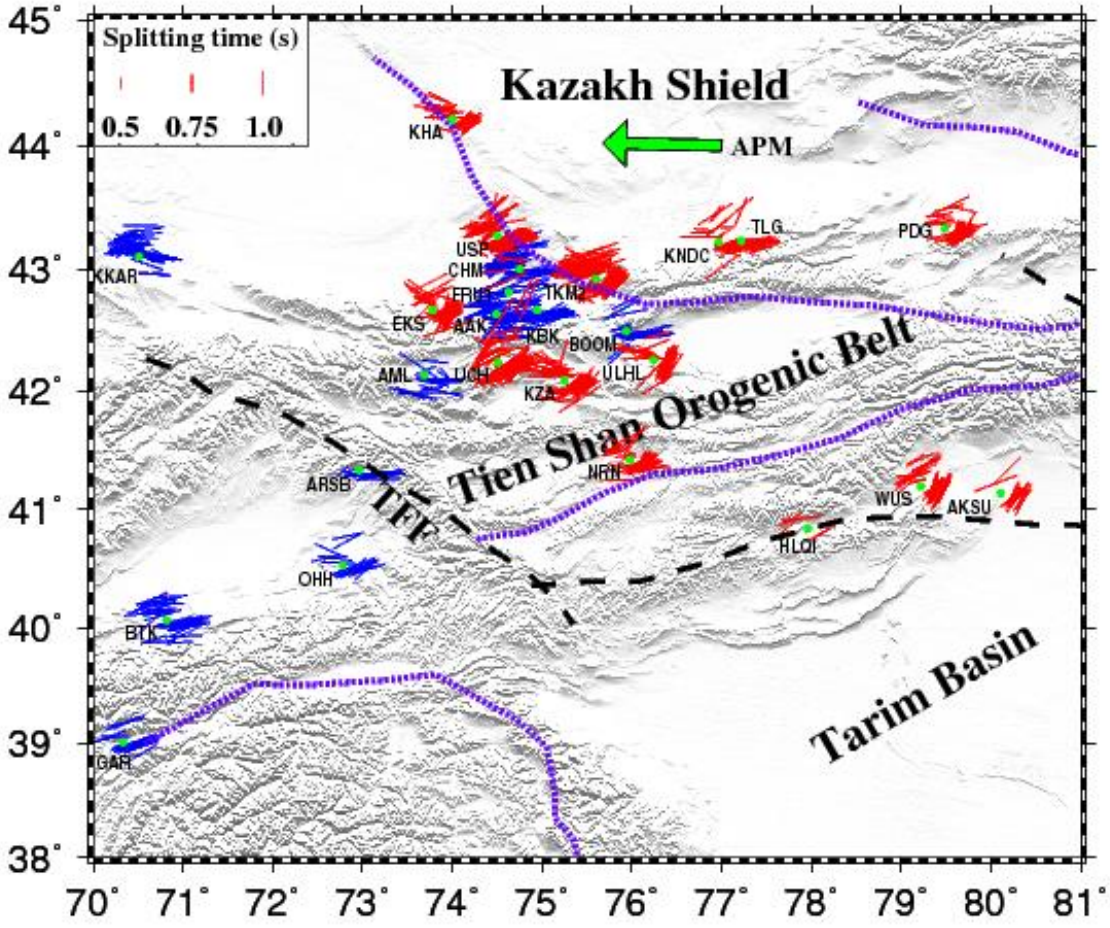

Figure 28: Quality A and B XKS splitting parameters with length proportional to δt at stations with adequate azimuthal coverage plotted above 100 km ray-piercing points superimposed on a digital elevation map. Green arrow indicates APM of Eurasian plate [Gripp and Gordon, 2002], and blue bars represent fast orientations of Group 1 stations whereas red bars are correspondingly for Group 2 stations

We visually examine the azimuthal variations of the splitting parameters observed at each of the 25 stations and find that they can be divided into two groups. Those in Group 1, which includes 10 stations, show insignificant azimuthal variations (Figures 29) in the observed splitting parameters. The majority of the stations show E-W fast orientations (Figure 31). An exception in terms of azimuthal variation is station KKAR which is located in the NW corner of the study area (Figure 28). XKS arrivals coming

from the east and southeast, which sample the TSOB, show mostly NW-SE fast orientations, while those from the north and northwest, which sample the Kazakh shield, show mostly NE-SW fast orientations. The azimuthal variation is not periodic and thus is not a consequence of multiple anisotropy layering. Instead, it might reflect spatial variations of fast orientations in the vicinity of the station. This phenomenon has been observed at a few other stations (e.g., station ENH in central China as reported by Liu and Gao, 2013).

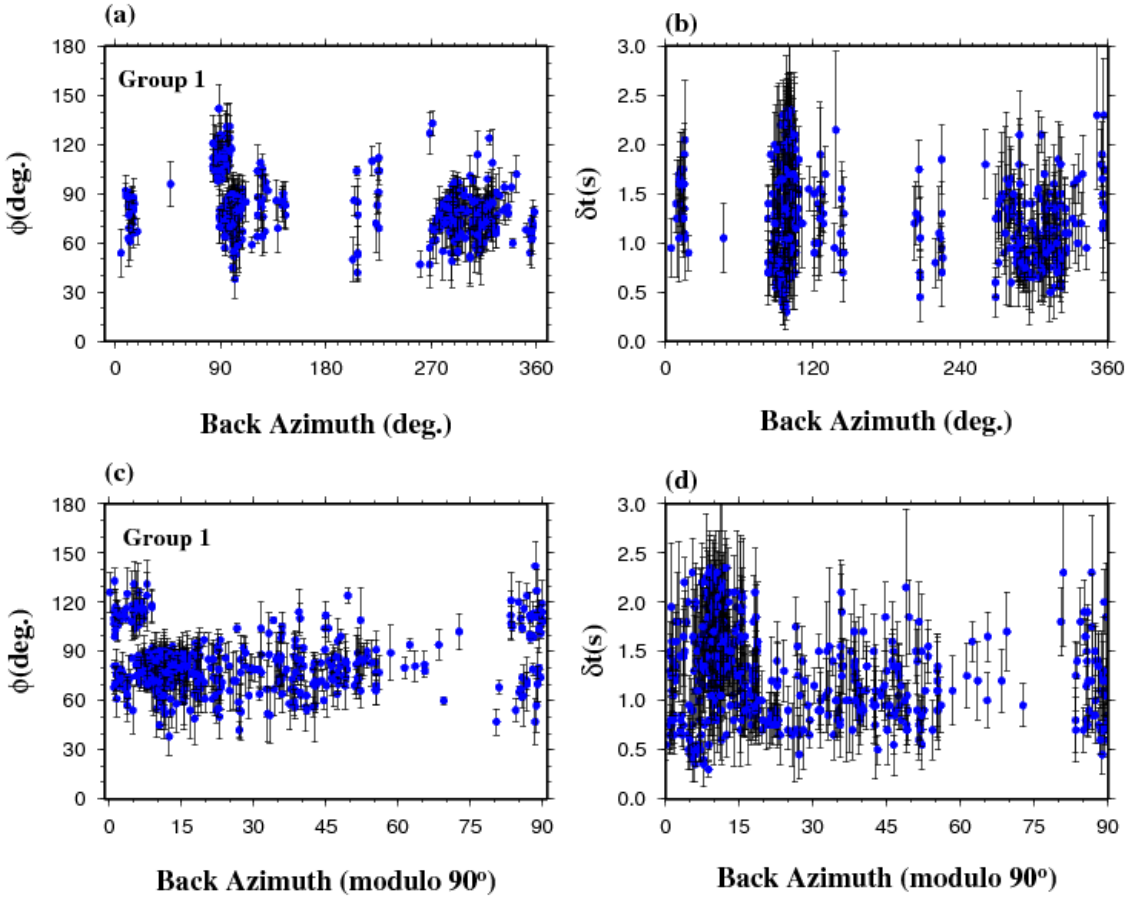

Figure 29: (a) Distribution of Group 1 stations fast orientations against the BAZ; (b) Same as (a), but for splitting time (c) Same as (a), but for the BAZ modulo; (d) Same as (b), but for BAZ modulo

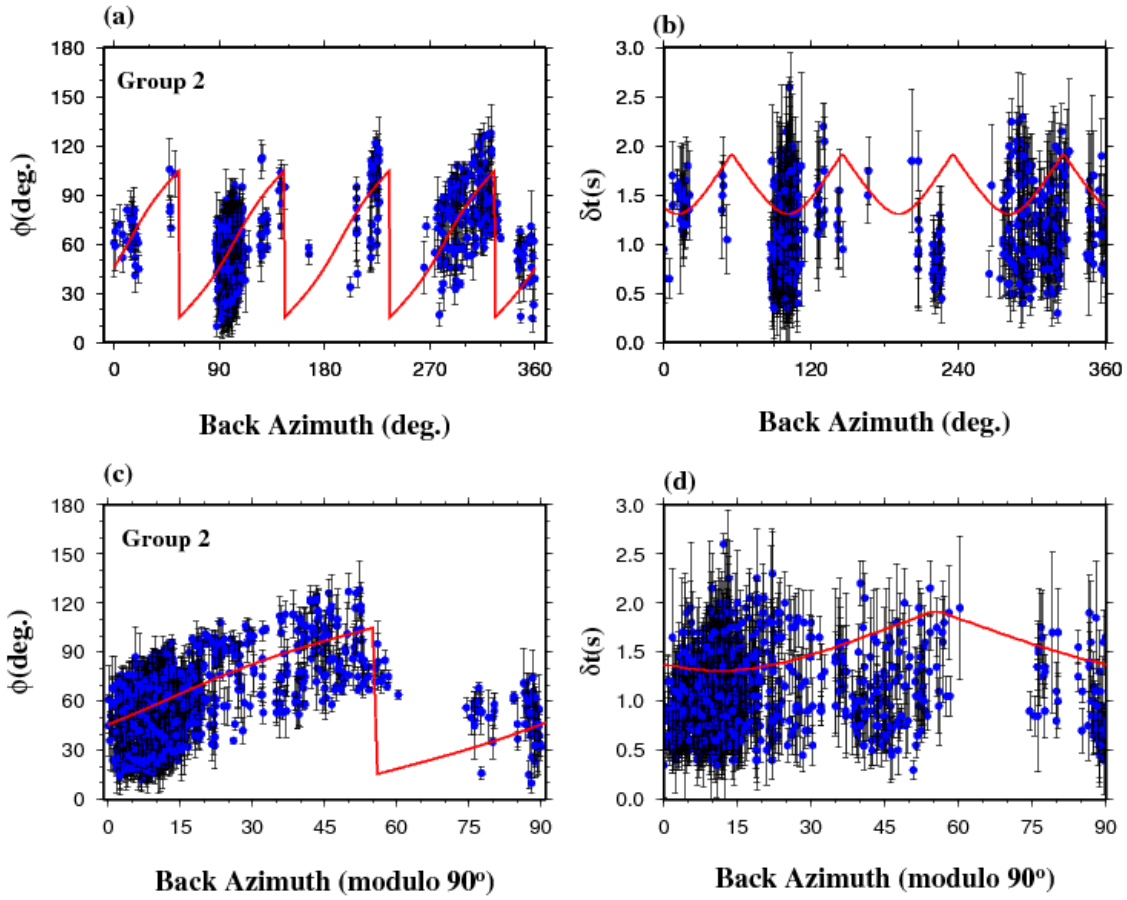

Figure 30: Azimuthal variations of SWS parameters for Group 2 stations. Solid lines are theoretical apparent splitting parameters computed using a nominal period of 5 s and θ = -65◦ and δt=1.7 s for the lower layer, and θ = 77◦ and δt=1.4 s for the upper layer

Group 2 has 15 stations, all of which are located on the northern margin of the Tarim Basin and in central Tien Shan, which is the area NE of the Talasso-Fergana fault (Figure 1). A remarkable feature of the fast orientations observed at these stations is a clear azimuthal variation with a 90^0 periodicity (Figures 30, Figure 32-46), indicating the existence of two-layer anisotropy.

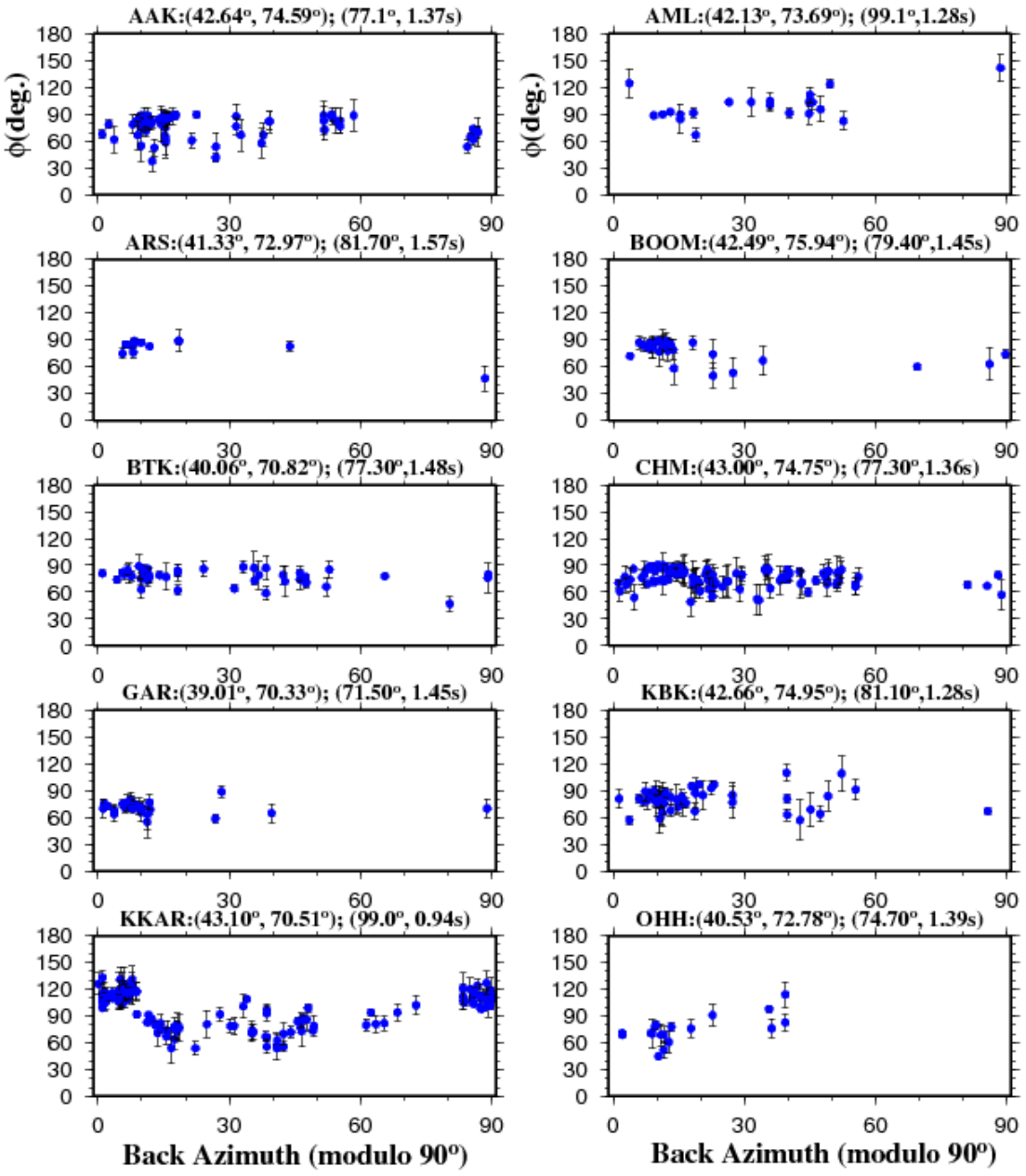

Figure 31: Azimuthal variations of observed fast orientations for each of the Group 1stations. Values in the first parentheses following the station name are the latitude and longitude of the station, and those in the second parentheses are station-averaged fast orientation and splitting time

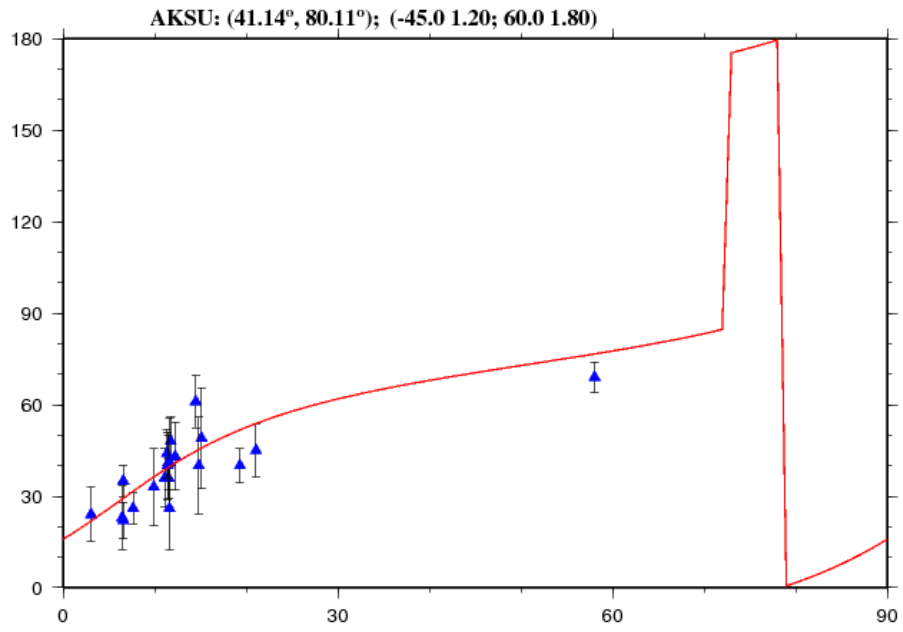

Figure 32: Azimuthal Variations of observed fast orientations for the station AKSU (Group 2) station. The solid curve in each of the plots shows the theoretical apparent splitting parameters computed using the optimal θ and δt for the lower and upper layers, which are indicated in the parentheses after the station name

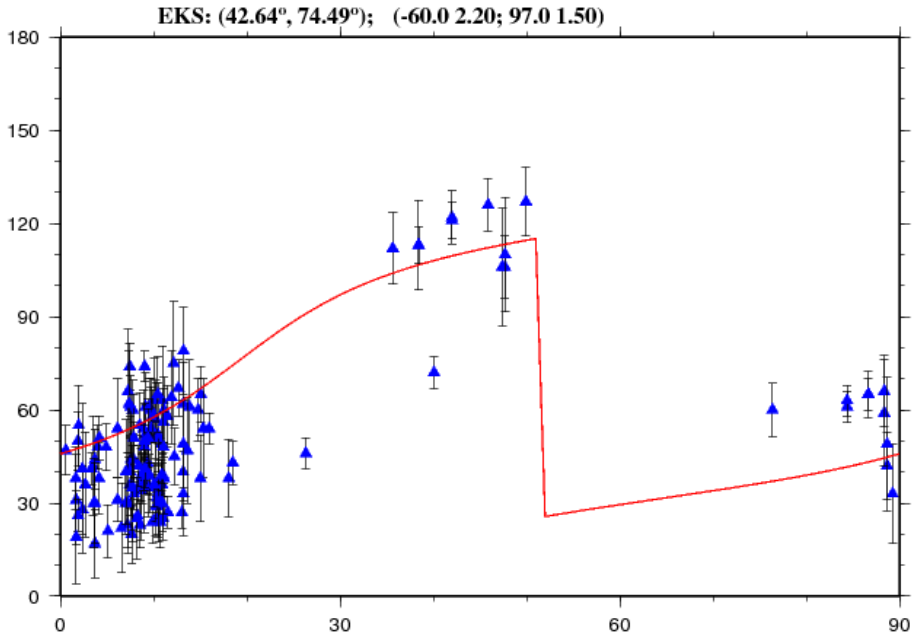

Figure 33: Azimuthal variations of observed fast orientations for station EKS

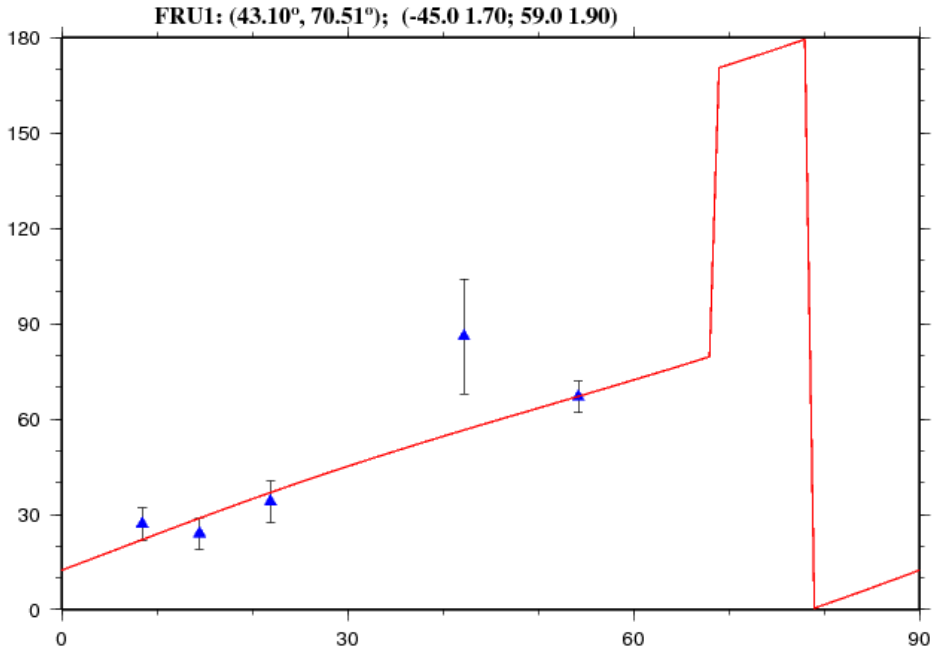

Figure 34: Azimuthal variations of observed fast orientations for station FRU1

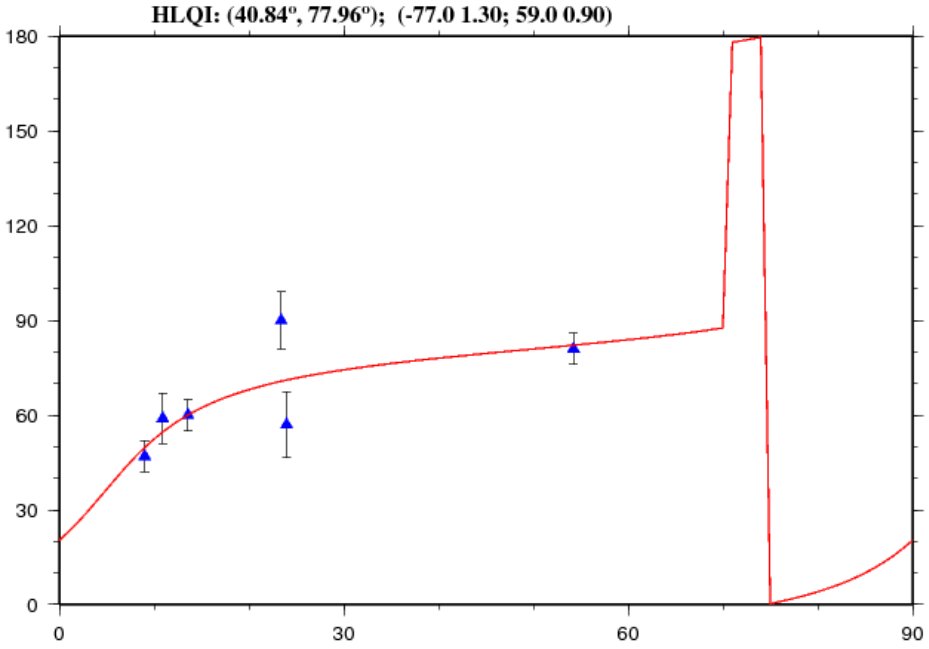

Figure 35: Azimuthal variations of observed fast orientations for station FRU1

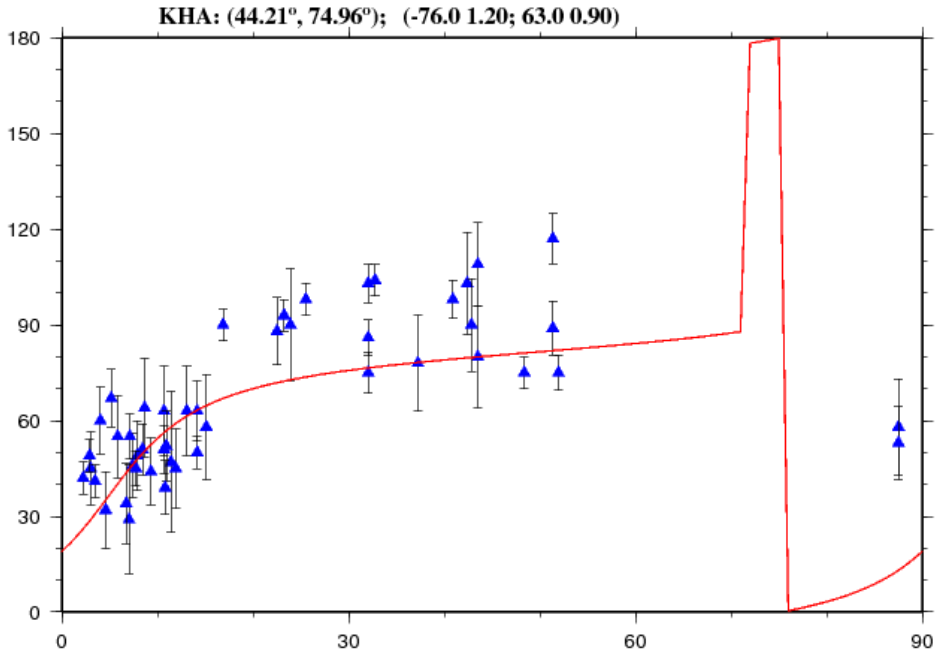

Figure 36: Azimuthal variations of observed fast orientations for station KHA

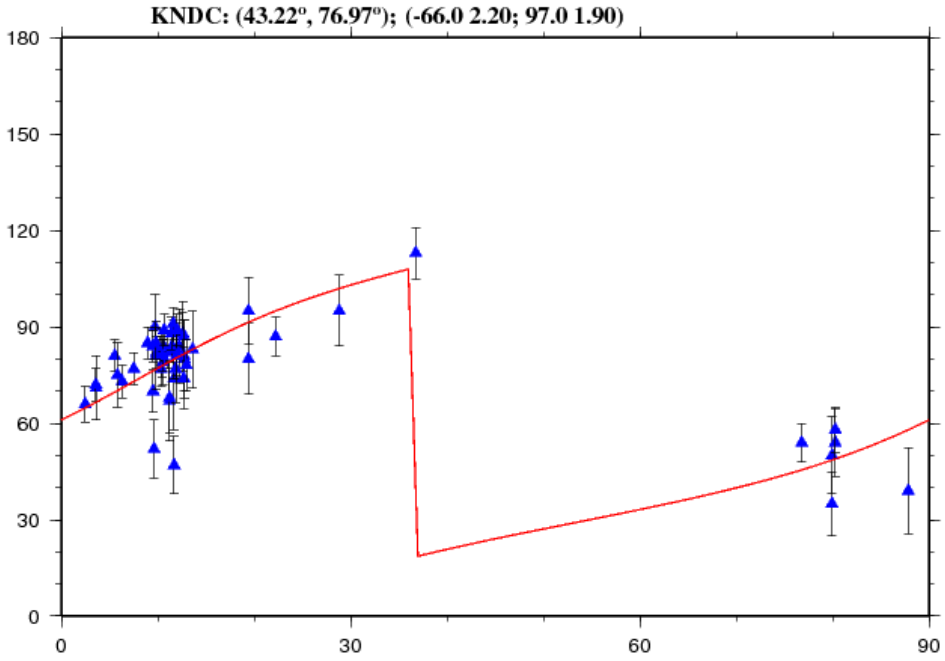

Figure 37: Azimuthal variations of observed fast orientations for station KNDC

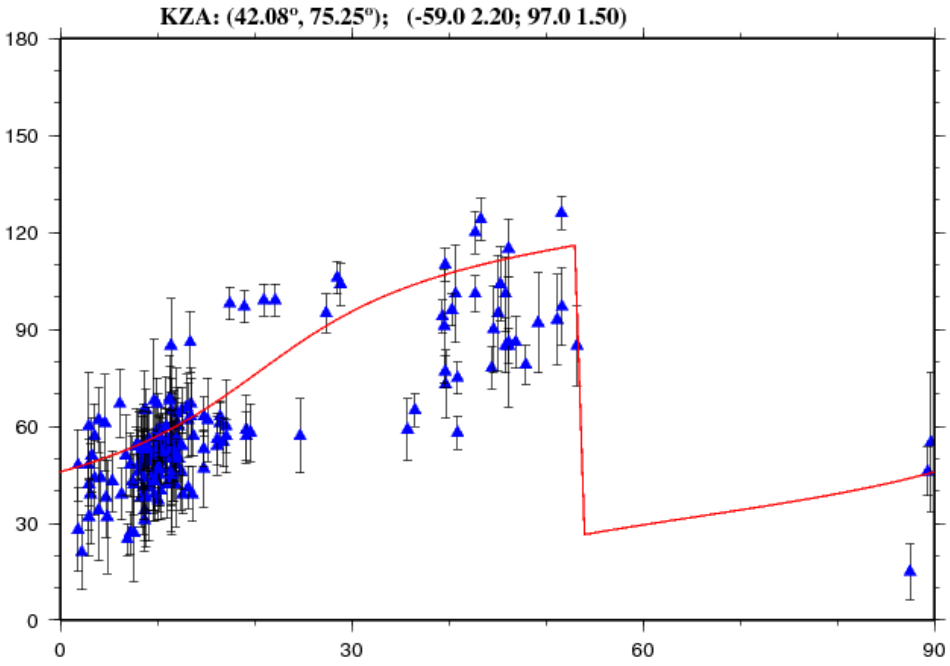

Figure 38: Azimuthal variations of observed fast orientations for station KZA

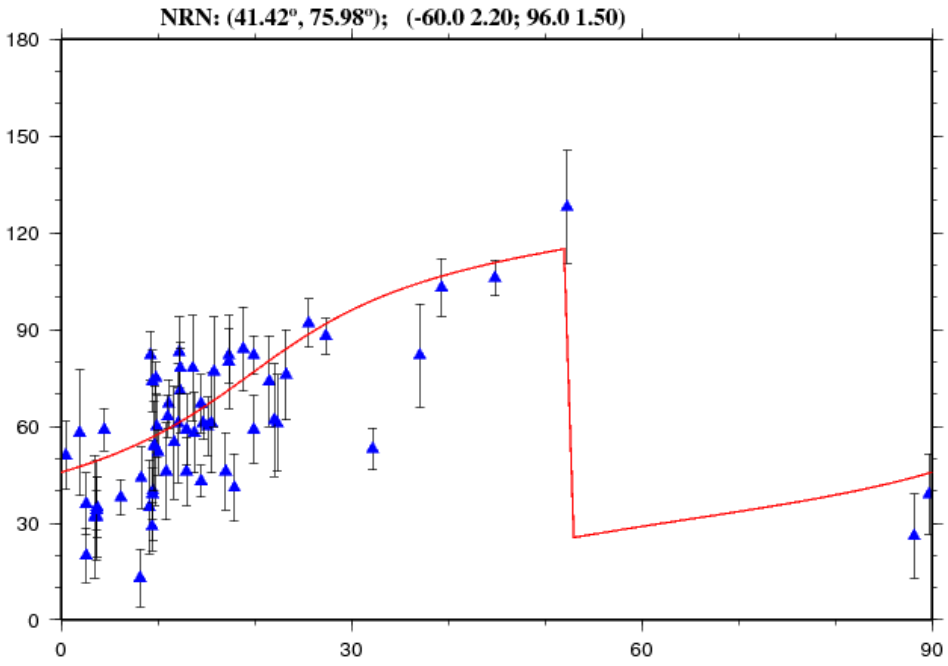

Figure 39: Azimuthal variations of observed fast orientations for station NRN

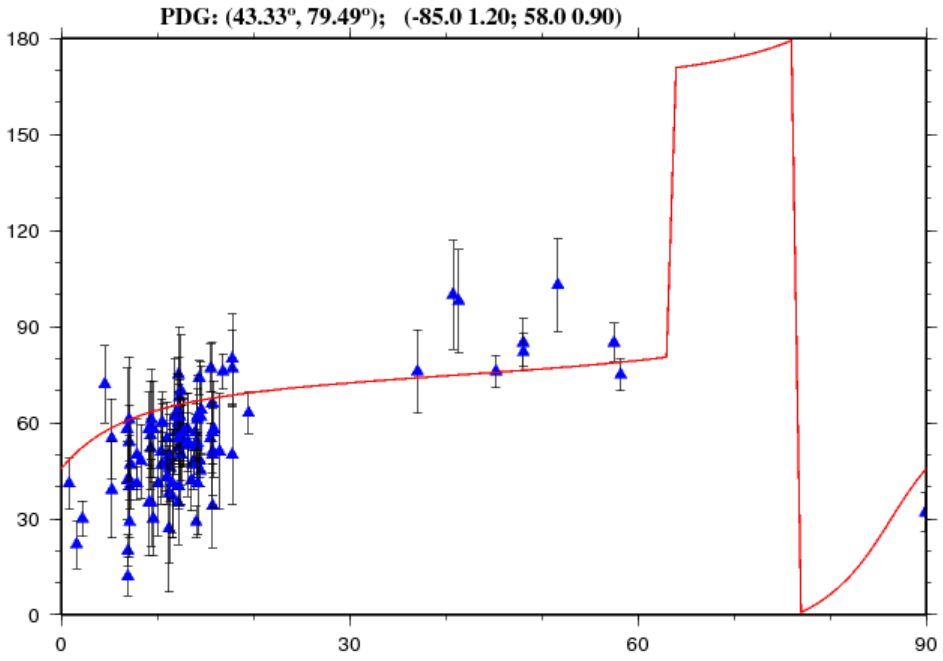

Figure 40: Azimuthal variations of observed fast orientations for station PDG

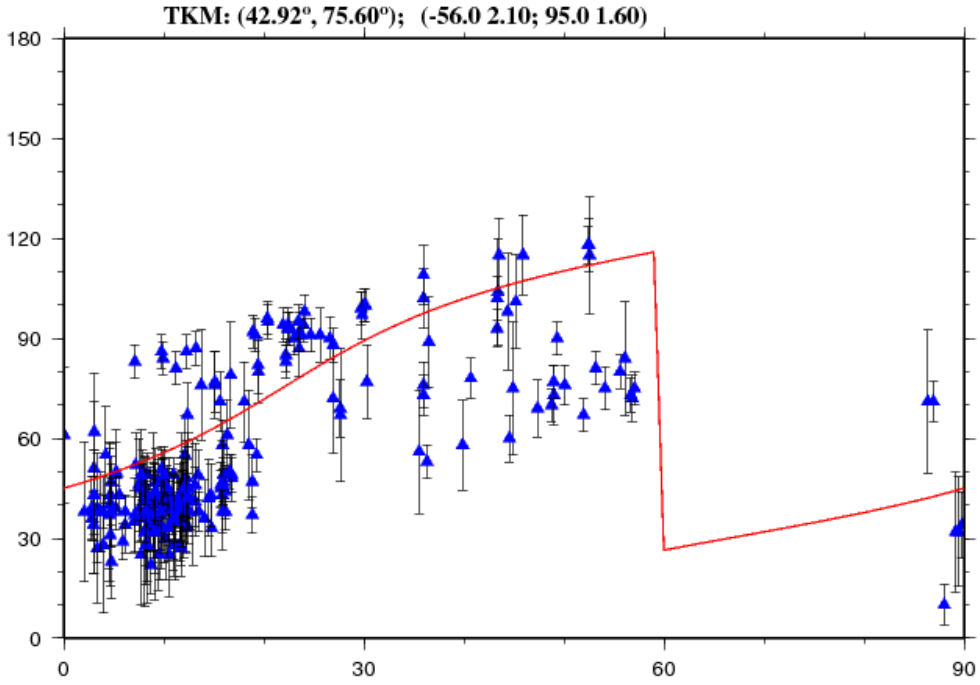

Figure 41: Azimuthal variations of observed fast orientations for station TKM

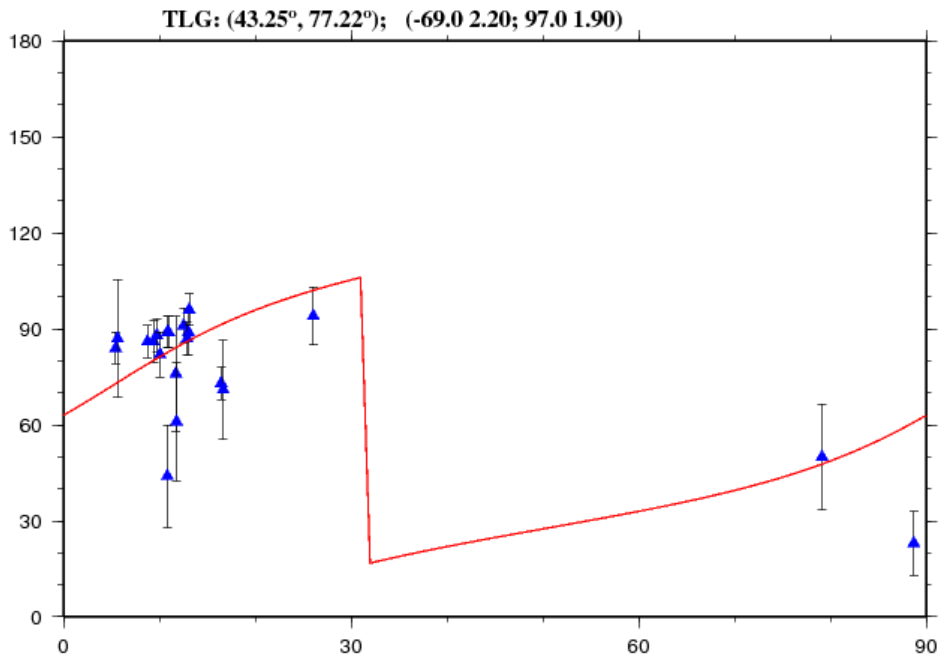

Figure 42: Azimuthal variations of observed fast orientations for station TLG

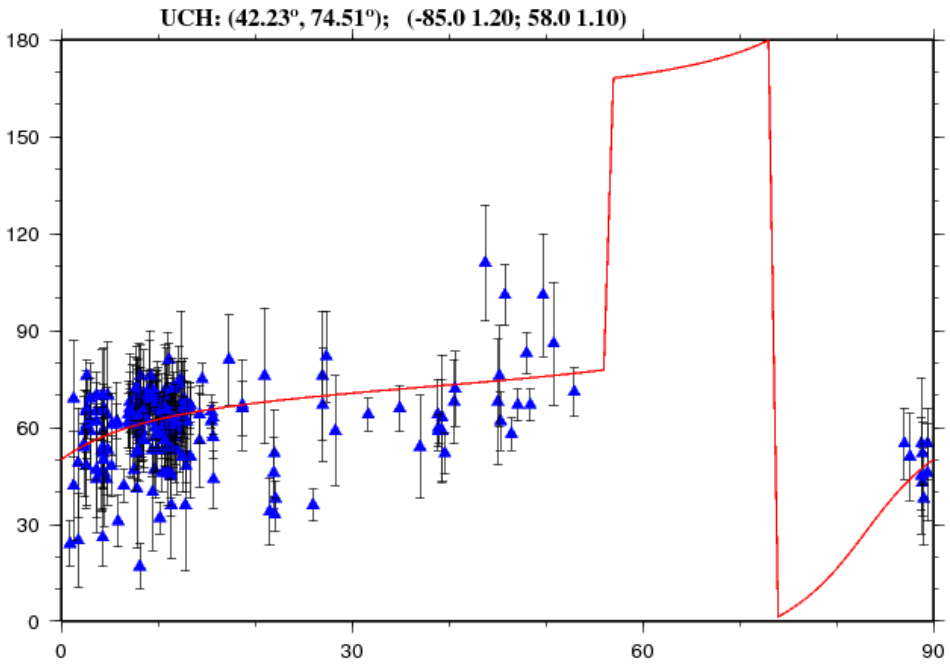

Figure 43: Azimuthal variations of observed fast orientations for station UCH

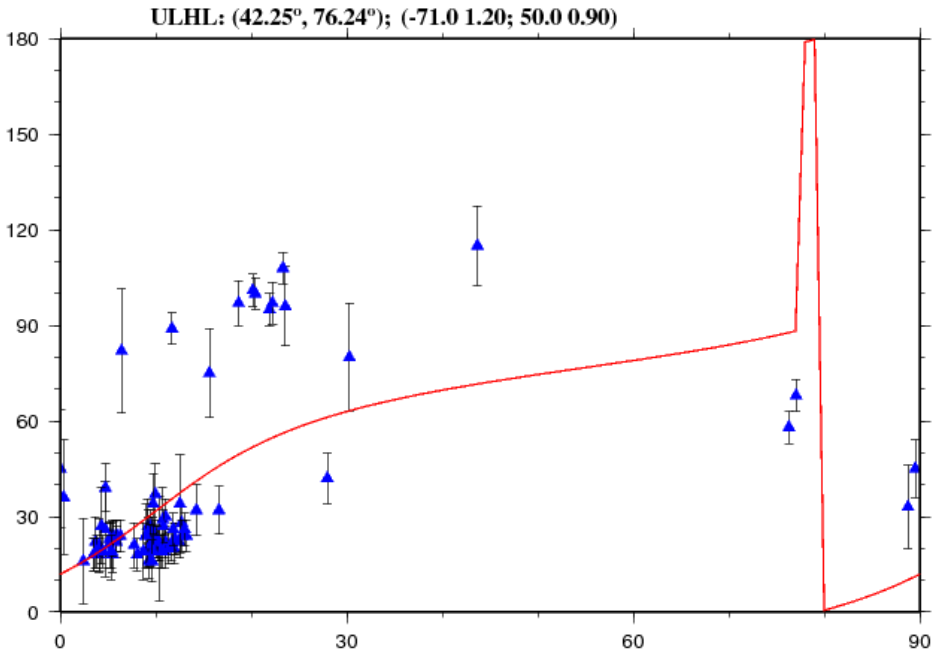

Figure 44: Azimuthal variations of observed fast orientations for station ULHL

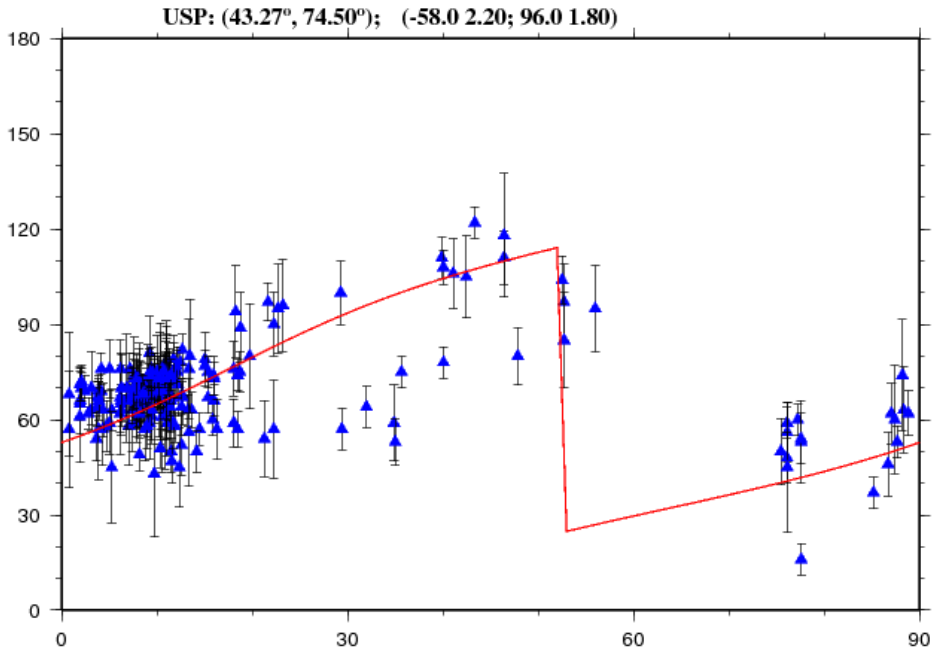

Figure 45: Azimuthal variations of observed fast orientations for station USP

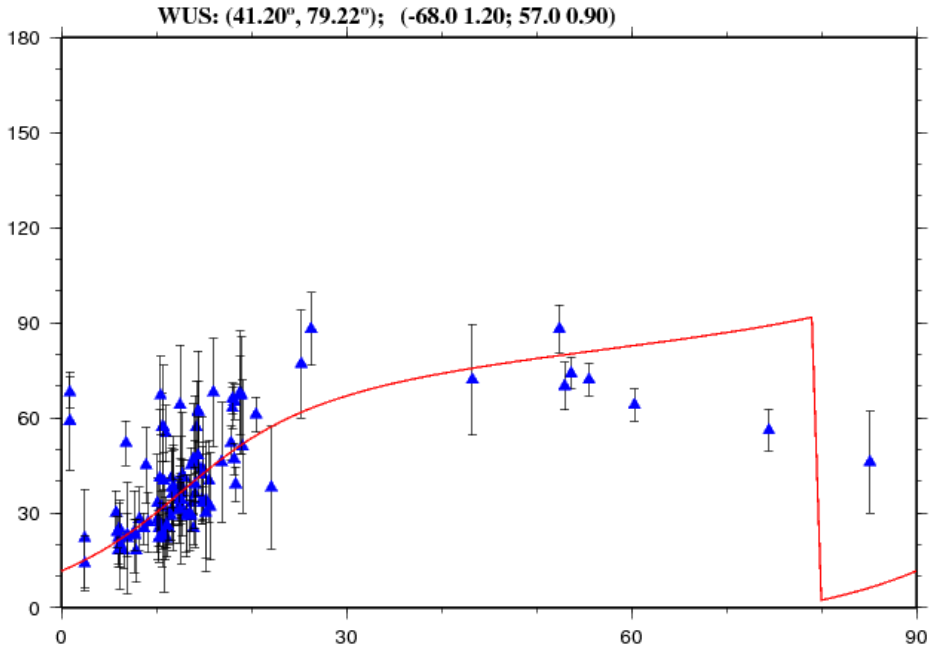

Figure 46: Azimuthal variations of observed fast orientations for station WUS

5. DISCUSSION

5.1. RELATIONSHIPS WITH PREVIOUS STUDIES

Previous studies at all but one (WUS) of the stations were performed under the assumption of simple anisotropy. Consequently, the results were presented in the form of station-averaged parameters (Figure 1), which are in good agreement with the station-averaged values observed at the stations in Group 1 (Figures 47). The fast orientations at most of these stations are dominantly parallel to the strike of the TSOB and were attributed to either vertically coherent lithospheric shortening caused by horizontal uniaxial compression, or an indication of shear flow beneath the orogenic belt (Makeyeva et al., 1992; Vinnik et al., 2007).

A major debate in previous studies, however, was the existence, characteristics, and formation mechanisms of a zone with 'anomalous' NNE-SSW fast orientations in the vicinity of the Issyk Kul (Figure 1), where most of the stations belong to Group 2 (Figure 47). A comparison of the spatial distributions of the stations used in previous studies (Figure 1) and this study (Figure 47) suggests that the majority of the stations in this area do not have adequate azimuthal coverage and thus are not used in this study. For the several stations that we examined (PDG, KZA, NRN), most of the SKS events have a back-azimuth of 90-100° (Figure 30), and many of the measurements from events in this BAZ range show NNE-SSW fast orientations (Figure 30). Thus, if only the SKS phase is used, the resulting fast orientations observed at the stations would be NNE-SSW.

This could explain the anomalous station-averaged fast directions in the vicinity of the Issyk Kul area (Figure 1) reported by some of the previous studies (Makeyeva et al., 1992; Wolfe and Vernon, 1998; Li and Chen, 2006), because most of them only used the

SKS phase which has a narrow back azimuthal range. For instance, the study of Li and Chen (2006) used only the SKS phase and all the 17 events that they used are in a narrow BAZ band of 98-107°. In addition, most of the stations with anomalous fast orientations only have one or two events. Therefore, in areas that potentially possess complex anisotropy, it is essential to utilize events from wide back-azimuthal bands in order to reveal the true anisotropic structure.

5.2. QUANTIFYING TWO-LAYER MODELS OF ANISOTROPY

Previous studies conducted in the TSOB have proposed the existence of two layers of anisotropy beneath station WUS (Figure 1) and suggested various models to explain the source of anisotropy and its geodynamic implications (Vinnik et al., 2007; Li et al., 2010). As shown in Figures 30 and 32-46, in addition to WUS, more than half of the 25 stations with adequate azimuthal coverage show periodic variations in the observed splitting parameters. Such variations suggest wide spread existence of two-layer anisotropy, which, in principle, can be quantified using the technique initially proposed by Silver and Savage (1994) by grid-searching for the two pairs of splitting parameters using measurements obtained at each of the stations.

In practice, however, measurements from individual stations are usually insufficient to produce well-constrained splitting parameters for each of the two layers. Such station-specific determinations are possible only at stations that recorded numerous high-quality XKS waveforms originated from events in a broad azimuthal range (e.g., station ATD in the Afar Depression reported by Gao et al., 2010, and station LSA on the Tibetan Plateau in Gao and Liu, 2009).

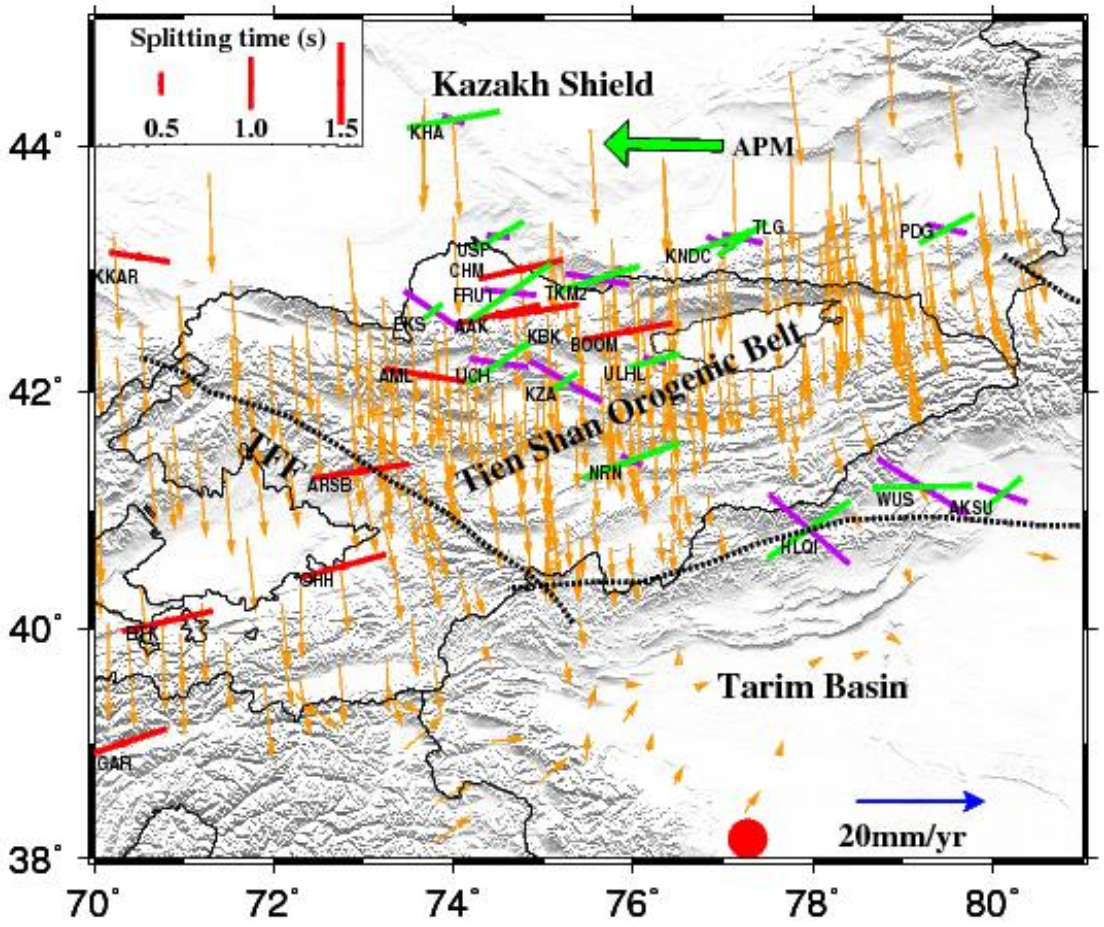

Figure 47: Station-averaged splitting parameters for Group 1 stations (red bars), and two-layer parameters for Group 2 stations (purple: lower layer; green: upper layer). Orange arrows are GPS measurements (Zubovich, et al., 2010) relative to the red dot in the Tarim Basin

For stations with limited data quality and/or quantity, reliable two-layer parameters can be obtained by combining measurements from stations with similar patterns of azimuthal variations (e.g., Yang et al., 2014 for the North American craton, and Wu et al., 2015 for the western Tibetan Plateau). Once the two-layer parameters are obtained using the combined dataset, station-specific parameters can be estimated by using the former as constraints.

We grid-search for the two-layer parameters using all the 1557 measurements

obtained at the 15 stations in Group 2. The searching range for the fast orientations is -90 to 90° with an increment of 1°, and that for the splitting times is 0 to 3 s with a step of 0.1 s. For each set of candidate splitting parameters, we compute the theoretical apparent splitting parameters using the relationships between the apparent splitting parameters and the two pairs of splitting parameters characterizing the two-layer model (Silver and Savage, 1994), and then compute a weighted misfit between the calculated and observed splitting parameters (Gao and Liu, 2009), i.e.,

$$\chi^2 = \sum_{i=1}^{n} w_1 * [(\phi_i^{obs} - \phi_i^{cal}) / \sigma \phi i]^2 + w_2 * [(\delta t_i^{obs} - \delta t_i^{cal}) / \sigma \delta t_i]^2,$$

where $\sigma\phi i$ and $\sigma\delta ti$ are the standard deviation of the i^{th} ϕ and δt measurements, respectively, n is the event number, and w_1=0.8 and w_2=0.2 are the corresponding weighting factors for the ϕ and δt observations. Note that because the fast orientations show much stronger azimuthal variations than the splitting times, a larger weighting factor is assigned to the ϕ measurements. The optimal set of parameters corresponding to the minimum misfit has a ϕ of -65° and a δt of 1.7 s for the lower layer, and a ϕ of 77° and a δt of 1.4 s for the upper layer (Figure 30). In the following, the above resulting parameters using the combined dataset are called $\phi_L^{(c)}$, $\delta t_L^{(c)}$, $\phi_U^{(c)}$, and $\delta t_U^{(c)}$.

We next estimate station-specific splitting parameters by using the two-layer parameters obtained from the combined dataset as constraints. Specifically, the searching range for the fast orientations of the upper and lower layers is limited to $\phi_U^{(c)} \pm 20^0$ and $\phi_L^{(c)} \pm 20^0$, respectively.

The resulting station-specific two-layer parameters are given in Table 1, and the theoretical apparent splitting parameters computed using the two-layer parameters for each of the 15 Group 2 stations are shown in Figure 47. At most of the stations, the fast orientation for the lower layer is WNW-ESE, while that of the upper layer is mostly parallel to the local trend of the TSOB. Good examples of such parallelism are found at the 3 stations on the northern edge of the Tarim Basin (Figure 47). The two-layer splitting parameters at WUS from this study are (-68°, 1.2 s) for the lower layer, and (57°, 0.9 s) for the upper layer (Figure 47). They are similar to the results of Li et al. (2010), but are significantly different with the findings of Vinnik et al. (2007) who reported an upper layer ϕ of -30° and a lower layer ϕ of 45°.

5.3. PREVIOUSLY PROPOSED ANISOTROP-FORMING MECHANISMS

E-W oriented anisotropy observed in the lower layer beneath WUS was previously attributed to APM-induced LPO in the asthenosphere (Li et al., 2010). However, the NW-SE oriented anisotropy in the lower layer observed at most of our Group 2 stations has a large angle with the westward motion of the Eurasian plate in a fixed hot spot frame (Figure 47), and thus may not be associated with APM-induced simple shear. This is consistent with the conclusion made by Silver (1996), who suggested that Eurasia is a slow moving plate and thus cannot produce a significant drag shear against the underlying asthenosphere to generate significant APM-parallel anisotropy.

Liu et al. (2007) investigated the possibility of density anomaly driven small-scale convection beneath Tien Shan using the finite element method combined with the marker-in cell technique. Their findings led them to hypothesize that density-driven

small-scale upper mantle convection existed beneath Tien Shan as the result of an upwelling of hot and weaker upper mantle beneath the orogenic belt. The fast orientations in our study (Figure 47) do not show a north-to-south clockwise rotation of fast polarizations predicted by Liu et al. (2007), but rather show a generally dominant fast orientation parallel to the strike of the orogenic belt and surface geological features. Thus, the small-scale convection model cannot adequately explain the orientation of measurements in the study area and cannot be the major cause for the observed upper layer of anisotropy beneath the TSOB.

It has also been suggested by Li and Chen (2006) that regional-scale resistive basal shear between the relatively northward moving lithosphere and the stationary asthenosphere would orient olivine crystals in the direction of the plate movement, and produce the observed NNE-SSW fast orientation observed in the Issyk Kul area (Figure 1). Surface velocity vectors obtained from GPS measurements show a prominent southward motion of the lithosphere in the TSOB with reference to the Tarim Basin (Figure 47). If the drag shear due to the relative lithosphere-asthenosphere movement is the origin of anisotropy, fast orientations throughout the TSOB would be oriented N-S consistent with the surface movement direction. In contrast, our results show that most of the fast orientations are parallel to the belt (Figure 47). Thus, the proposed model advocating basal drag does not adequately fit with our SWS measurements.

5.4. LITHOSPHERIC CONTRIBUTIONS

The station-averaged fast orientations at all Group 1 stations and the fast orientation of the top layer at Group 2 stations are mostly E-W, which is parallel to the main strike of

the TSOB and orthogonal to the shortening direction revealed by GPS (Figure 47). Therefore, the simplest model is that they reflect the direction of lithospheric fabrics and olivine LPO associated with the TSOB, as suggested by Li et al. (2010) for the upper layer beneath WUS.

It is believed that in collisional belts, the fast orientation is analogous to the strike of structural fabrics or surface geological features suggesting coherent deformation of the lithosphere (Silver and Chan, 1991; Liu et al., 1995; Silver et al., 2001). The Tien Shan is one of the most active intracontinental orogenic belts, having been shaped in response to the India-Eurasia collision (Molnar and Tapponnier, 1975), and is characterized by N-S crustal shortening at a rate of ~20 mm/yr (Abdrakhamatov et al., 1996; Vinnik et al., 2007; Zubovich et al., 2010) indicating the transfer of strain from the Himalayas through the Tarim Basin to the Tien Shan (Neil and Houseman, 1997).

Regional deformation gave rise to the approximate N-S direction of shortening, which is compensated by the E-W flow of sub-Tien Shan lithospheric mantle material orthogonal to the direction of maximum compression. In other words, the observed E-W fast orientations at Group 1 stations and for the upper layer at Group 2 stations are most likely the results of N-S compression, which produced strike-parallel lithospheric fabrics.

5.5. ANISOTROPY RELATED TO SUBDUCTION OF THE TARIM LITHOSPHERE

Previous GPS data analyses by numerous studies (e.g. Abdrakhamatov et al., 1996; Reigbel et al., 2001; Zubovich et al., 2010) revealed that the Tarim Basin is moving

toward Eurasia at a rate of about 20 mm/yr, implying high rates of tectonic deformation in the Tien Shan (Figure 47). The existence of relatively larger crustal thicknesses along the Tarim-Tien Shan boundary was proposed by Vinnik et al. (2006) to indicate an ongoing subduction of Tarim lithosphere beneath the Tien Shan. Mattauer (1986) also proposed that the rigid Tarim lithospheric block is likely subducting beneath the TSOB. In addition, tomographic image analyses (Ghose et al., 1998; Guo et al., 2006; Lei and Zhao, 2007; Omuralieva et al., 2009; Lei, 2011) suggest the subduction of the Tarim and perhaps the Kazakh lithosphere beneath the TSOB as a result of the continuous northward indentation of India onto Eurasia. These models are substantiated by GPS data that we re-calculated with respect to a fixed Tarim Basin (Figure 47).

In our preferred model, the Tien Shan lithosphere acts as a relatively passive entity bordered by the strong Kazakh lithosphere to the north and Tarim subduction to the south. As a result, the asthenospheric mantle material beneath central Tien Shan is squeezed between the subducting Tarim lithosphere and the Kazakh lithospheric root. Due to the geometry of the boundary of the Tarim and Kazakh lithospheres, the resulting asthenospheric flow may show a counterclockwise rotation and develop a WNW-ESE oriented fast orientation beneath central Tien Shan. The lack of complex anisotropy beneath western Tien Shan suggests that in the study area, such a flow is only limited in central Tien Shan.

6. CONCLUSIONS

A number of significant conclusions regarding mantle structure and dynamics beneath the Tien Shan can be made using a total of 2089 pairs of well-defines XKS splitting parameters obtained at 25 broadband digital seismic stations situated in the Tien Shan orogenic zone and adjacent area.

First, among the 25 stations with adequate azimuthal coverages for a reliable determination of the existence of complex anisotropy, 15 of them in central Tien Shan show systematic azimuthal variations with a 90^0 periodicity, suggesting a wide spread existence of multi-layer anisotropy in the study area. Grid-searching of the two pairs of splitting parameters results in a top layer with an ENE-WSW fast orientation, and a lower layer with a WNW-ESE fast orientation. Second, the 10 remaining stations show azimuthally invariant E-W fast orientations that are sub-parallel to the main strike of Tien Shan. Third, we propose that anisotropy with a strike-parallel orientation is the result of vertically coherent lithospheric deformation, while WNW-ESE oriented anisotropy observed in the lower layer beneath central Tien Shan most likely reflects asthenospheric flow driven by the subducting Tarim lithosphere toward the thick root of the Kazakh shield. Finally, this study demonstrates the importance of using SKS, SKKS, and PKS events from a broad azimuthal range in order to realistically reveal mantle structure and dynamics in areas with wide spread complex anisotropy.

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SECTION

2. CONCLUSIONS

The Tien Shan and adjacent areas are tectonically complex regions, which includes cratons, basins, shear zones, and active magmatism. Our SWS results suggest that the anisotropy beneath the central Tien Shan is located in the upper mantle and lithosphere, although fossilized anisotropy cannot be ruled out. Spatial distribution of the splitting parameters in the study area does not support the small-scale mantle convection, regional scale resistive basal shear and APM induced anisotropy hypothesis models suggested by previous SWS studies as a cause for the observed upper and lower layer anisotropies. We propose that the N-S directed shortening due to India-Eurasia collision compensated by the E-W flow of sub-Tien Shan lithospheric material is the source of anisotropy for the upper layer of anisotropy whereas subduction of the Tarim and Kazakh Lithospheres beneath the Tien Shan and subsequent squeezing of mantle material and development of lattice preferred orientation of olivine a-axis is the cause for the lower layer of anisotropy. Additional shear-wave splitting and other measurements in the entire Tien Shan and surrounding should be able to test and refine the proposed hypothesis.

APPENDIX (A)

LIST OF GROUP 1 AND 2 STATIONS

TABLE 1: STATION-AVERAGED SPLITTING PARAMETERS FOR GROUP 1 STATIONS AND TWO-LAYER PARAMETERS FOR GROUP 2 STATIONS

No	Station Name	Network code	Latitude(^{0})	Longitude(^{0})	No. of events	Group	ϕ_L(^{0})	$\delta t_{L\,(S)}$	ϕ_U(^{0})	$\delta t_{U\,(S)}$
1	AAK	II/KN	42.64	74.59	71	1	-	-	77.10	1.37
2	AML	KN	42.13	73.69	21	1	-	-	99.1	1.28
3	ARS	KR	41.33	72.97	12	1	-	-	81.7	1.57
4	BOOM	KR	42.49	75.94	34	1	-	-	79.4	1.45
5	BTK	KR	40.06	70.82	43	1	-	-	77.3	1.48
6	CHM	KN	43.00	74.75	123	1	-	-	77.3	1.36
7	GAR	II	39.01	70.33	27	1	-	-	71.5	1.45
8	KBK	KN	42.66	74.95	59	1	-	-	81.1	1.28
9	KKAR	KZ	43.10	70.51	124	1	-	-	99.0	0.94
10	OHH	KR	40.53	72.78	18	1	-	-	74.7	1.39
11	AKSU	XW	41.14	80.11	21	2	-45.0	1.2	60.0	1.8
12	EKS	KR/KN	42.66	73.78	144	2	-60.0	2.2	97.0	1.5
13	FRU1	KR	42.81	74.63	5	2	-45.0	1.7	59.0	1.9
14	HLQI	XW	40.84	77.96	6	2	-77.0	1.3	59.0	0.9
15	KHA	XW	44.21	74.00	48	2	-61.0	2.2	91.0	1.5
16	KNDC	KZ	43.22	76.97	54	2	-66.0	2.2	97.0	1.9
17	KZA	KN	42.08	75.25	184	2	-59.0	2.2	97.0	1.5
18	NRN	KR/XW	41.42	75.98	58	2	-60.0	2.2	96.0	1.5
19	PDG	XW/KZ	43.33	79.49	106	2	-85.0	1.2	58.0	0.9
20	TKM2	KN	42.92	75.60	250	2	-56.0	2.1	95.0	1.6
21	TLG	KZ	43.25	77.22	20	2	-69.0	2.2	97.0	1.9
22	UCH	KN	42.23	74.51	223	2	-85.0	1.2	58.0	1.1
23	ULHL	KN	42.25	76.24	84	2	-69.0	1.2	97.0	0.9
24	USP	KN	43.27	74.50	241	2	-58.0	2.2	96.0	1.8
25	WUS	Gy	41.20	79.22	109	2	-68.0	1.2	57.0	0.90

APPENDIX (B)

SWS DATASET UTILIZED FOR THE ANALYSES

Station	Phase	Event	St. Lat.	St. Long.	Phi	STD Phi	DT	STD DT	BAZ	Event lat	Event lon	Event Dep.	Quality
AAKxxx_II	PKS	EQ031172257	42.64	74.49	82	12	1	0.3	309.16	-8.2	-71.59	559.9	B
AAKxxx_II	PKS	EQ043170636	42.64	74.49	80	5	1.7	0.3	281.07	-26.7	-63.32	568.7	B
AAKxxx_II	PKS	EQ091850649	42.64	74.49	89	17	1.1	0.4	328.44	9.59	-78.97	38	B
AAKxxx_II	PKS	EQ121540752	42.64	74.49	88	9.5	0.9	0.3	287.04	-22.1	-63.56	527	B
AAKxxx_II	PKS	EQ992151558	42.64	74.49	89	16	0.6	0.2	321.63	-3.45	-79.16	88.1	B
AAKxxx_II	SKKS	EQ002221141	42.64	74.49	70	7	1.8	0.5	356.69	18.2	-102.5	45.8	B
AAKxxx_II	SKKS	EQ002280430	42.64	74.49	86	5	1.3	0.3	105.74	-31.5	179.73	357.7	B
AAKxxx_II	SKKS	EQ011801835	42.64	74.49	90	4	0.9	0.2	292.55	-19.5	-66.25	273.9	B
AAKxxx_II	SKKS	EQ062231430	42.64	74.49	65	4	1.9	0.3	355.16	18.54	-101	56	B
AAKxxx_II	SKKS	EQ063202029	42.64	74.49	87	7.5	1.5	0.3	143.47	-52	139.47	10	B
AAKxxx_II	SKKS	EQ071451747	42.64	74.49	88	2.5	1.3	0.2	287.7	-24.2	-67.03	180.5	B
AAKxxx_II	SKKS	EQ102461635	42.64	74.49	88	14	1	0.3	121.59	-43.5	171.83	12	B
AAKxxx_II	SKKS	EQ112462255	42.64	74.49	80	7.5	2	0.6	102.19	-20.7	169.72	185.1	B
AAKxxx_II	SKKS	EQ123200920	42.64	74.49	54	7	1.8	0.4	354.42	18.35	-100.4	53	B
AAKxxx_II	SKKS	EQ132240416	42.64	74.49	79	20	2	0.8	104.51	-30.6	-179.6	325.2	B
AAKxxx_II	SKKS	EQ952281504	42.64	74.49	87	5	0.9	0.2	106.37	-32	179.36	463	B
AAKxxx_II	SKKS	EQ963100941	42.64	74.49	90	5.5	1.3	1	105.25	-31.2	180	369.4	B
AAKxxx_II	SKKS	EQ971420750	42.64	74.49	62	6.5	1.5	0.4	355.77	18.68	-101.6	70	B
AAKxxx_II	SKKS	EQ991101904	42.64	74.49	84	8	2.1	0.6	105.43	-31.9	-179	95.7	B
AAKxxx_II	SKS	EQ002220008	42.64	74.49	86	4.5	1.9	0.5	99.37	-15.7	167.99	33	B
AAKxxx_II	SKS	EQ002221141	42.64	74.49	72	5	2.3	0.6	356.69	18.2	-102.5	45.8	B
AAKxxx_II	SKS	EQ002781658	42.64	74.49	89	3	2.3	0.4	99.86	-15.4	166.91	23	B
AAKxxx_II	SKS	EQ013360247	42.64	74.49	79	11	0.8	0.3	97.98	-12.7	166.66	100.5	B
AAKxxx_II	SKS	EQ013461253	42.64	74.49	84	14	1.3	0.5	100.7	-17.2	167.72	33	B
AAKxxx_II	SKS	EQ013461402	42.64	74.49	83	14	0.9	0.3	145.34	-42.8	124.69	10	B
AAKxxx_II	SKS	EQ031292026	42.64	74.49	54	16	0.7	0.2	206.98	-48.2	32.272	10	B
AAKxxx_II	SKS	EQ043272026	42.64	74.49	67	13	1.5	0.4	127.75	-46.7	164.72	10	B
AAKxxx_II	SKS	EQ051401240	42.64	74.49	76	8	0.9	0.3	99.79	-24.5	178.84	565.3	B
AAKxxx_II	SKS	EQ080982254	42.64	74.49	38	12	1.5	0.5	102.42	-20	168.45	10	B
AAKxxx_II	SKS	EQ112340604	42.64	74.49	87	5.5	2.3	0.8	101.18	-17.4	167.27	10	B
AAKxxx_II	SKS	EQ120690709	42.64	74.49	72	7	1.8	0.3	101.02	-19.1	169.61	16	B
AAKxxx_II	SKS	EQ122071120	42.64	74.49	87	5	2.1	0.7	100.31	-9.69	159.73	20	B
AAKxxx_II	SKS	EQ123491036	42.64	74.49	82	6.5	1.8	0.4	12.46	31.21	-119.6	11.3	B
AAKxxx_II	SKS	EQ940422117	42.64	74.49	84	5	2.1	0.7	101.02	-18.8	169.17	205.7	B
AAKxxx_II	SKS	EQ942232042	42.64	74.49	79	5	1.8	0.5	92.48	-21.6	-173.8	31	B
AAKxxx_II	SKS	EQ942441515	42.64	74.49	75	11	1.4	0.3	15.34	40.4	-125.7	10	B
AAKxxx_II	SKS	EQ943480728	42.64	74.49	80	8	1.6	0.5	100.39	-9.52	159.41	16.3	B
AAKxxx_II	SKS	EQ953061608	42.64	74.49	81	6.5	1.4	0.3	100.4	-9.79	159.7	12.9	B
AAKxxx_II	SKS	EQ971420750	42.64	74.49	74	2.5	1.4	0.3	355.77	18.68	-101.6	70	B
AAKxxx_II	SKS	EQ973141247	42.64	74.49	68	4.5	1.3	0.2	270.97	0.05	-16.89	10	B
AAKxxx_II	SKS	EQ981991641	42.64	74.49	83	9.5	1.6	0.8	101.33	-18.4	168.17	33	B
AAKxxx_II	SKS	EQ991101904	42.64	74.49	59	17	1.3	0.5	105.43	-31.9	-179	95.7	B
AAKxxx_KN	PKS	EQ001510639	42.63	74.49	83	14	0.7	0.3	144.38	-63.6	172.74	10	B
AAKxxx_KN	PKS	EQ031172257	42.63	74.49	83	10	1.1	0.3	309.16	-8.2	-71.59	559.9	B
AAKxxx_KN	PKS	EQ043170636	42.63	74.49	82	4.5	1.7	0.3	281.05	-26.7	-63.32	568.7	B
AAKxxx_KN	PKS	EQ101432246	42.63	74.49	58	16	1	0.5	307.41	-13.9	-74.35	101.4	B
AAKxxx_KN	PKS	EQ101930011	42.63	74.49	61	8	0.9	0.2	291.48	-22.1	-68.22	115	B
AAKxxx_KN	PKS	EQ941572047	42.63	74.49	73	12	0.8	0.2	321.8	2.917	-76.06	12.1	B
AAKxxx_KN	PKS	EQ992151558	42.63	74.49	83	17	0.8	0.3	321.62	-3.45	-79.16	88.1	B
AAKxxx_KN	SKKS	EQ002221141	42.63	74.49	70	17	1.2	0.5	356.69	18.2	-102.5	45.8	B
AAKxxx_KN	SKKS	EQ002280430	42.63	74.49	86	6	1.2	0.3	105.75	-31.5	179.73	357.7	B
AAKxxx_KN	SKKS	EQ033612238	42.63	74.49	53	9.5	2.1	0.5	102.92	-21.7	169.84	10	B
AAKxxx_KN	SKKS	EQ051922306	42.63	74.49	67	16	1.1	0.4	99.13	-27	-176.3	10	B
AAKxxx_KN	SKKS	EQ063202029	42.63	74.49	90	7	1.6	0.3	143.47	-52	139.47	10	B
AAKxxx_KN	SKKS	EQ071451747	42.63	74.49	90	3.5	1.3	0.2	287.69	-24.2	-67.03	180.5	B
AAKxxx_KN	SKKS	EQ102461635	42.63	74.49	77	10	0.9	0.2	121.59	-43.5	171.83	12	B
AAKxxx_KN	SKKS	EQ981901445	42.63	74.49	85	4	1.3	0.3	104.04	-30.5	-179	129.5	B
AAKxxx_KN	SKKS	EQ990930617	42.63	74.49	67	18	1.1	0.4	302.65	-16.7	-72.66	87.2	B

AAKxxx_KN	SKKS	EQ991101904	42.63	74.49	85	8	2.05	0.57	105.43	-31.888	-179.04	95.7	B
AAKxxx_KN	SKS	EQ002781658	42.63	74.49	87	5	1.6	0.38	99.86	-15.421	166.91	23	B
AAKxxx_KN	SKS	EQ013461402	42.63	74.49	77	8.5	1.3	0.37	145.34	-42.813	124.688	10	B
AAKxxx_KN	SKS	EQ031292026	42.63	74.49	42	5	1.25	0.33	206.98	-48.209	32.272	10	B
AAKxxx_KN	SKS	EQ051401240	42.63	74.49	76	10.5	0.8	0.23	99.8	-24.529	178.84	565.3	B
AAKxxx_KN	SKS	EQ062270543	42.63	74.49	86	8	1.65	0.47	106.26	-9.273	150.481	10	B
AAKxxx_KN	SKS	EQ073430728	42.63	74.49	83	7	1.3	0.37	98.9	-25.996	-177.514	152.5	B
AAKxxx_KN	SKS	EQ082600728	42.63	74.49	55	17.5	0.95	0.6	279.86	0.902	-28.998	10	B
AAKxxx_KN	SKS	EQ921170741	42.63	74.49	86	9	1.25	0.4	14.5	40.432	-124.566	19.6	B
AAKxxx_KN	SKS	EQ921371458	42.63	74.49	89	8.5	1.35	0.47	101.35	-19.119	169.079	164.5	B
AAKxxx_KN	SKS	EQ942441515	42.63	74.49	66	9	1.1	0.2	15.34	40.402	-125.68	10	A
AAKxxx_KN	SKS	EQ951380006	42.63	74.49	62	14.5	1.45	0.47	273.73	-0.893	-21.996	12.2	B
AAKxxx_KN	SKS	EQ991101904	42.63	74.49	62	17	1.3	0.5	105.43	-31.888	-179.04	95.7	B
AHQIxx_XW	SKKS	EQ001141701	40.93	78.46	74	6	1.5	0.28	279.41	-28.384	-62.943	609.8	B
AHQIxx_XW	SKKS	EQ001292135	40.93	78.46	53	8	0.65	0.12	108.56	-31.319	179.839	383.1	B
AHQIxx_XW	SKKS	EQ992580301	40.93	78.46	64	4.5	1.3	0.18	294.07	-20.934	-67.275	218	B
AHQIxx_XW	SKS	EQ001091728	40.93	78.46	34	14	0.65	0.25	96.74	-20.664	-176.469	220.7	B
AHQIxx_XW	SKS	EQ001252036	40.93	78.46	47	5	0.75	0.1	95.64	-17.914	-178.522	515.8	B
AHQIxx_XW	SKS	EQ001271344	40.93	78.46	46	8	0.6	0.12	100.48	-11.295	165.432	12	A
AHQIxx_XW	SKS	EQ992601454	40.93	78.46	49	7.5	0.7	0.1	101.24	-13.79	167.238	196.8	A
AHQIxx_XW	SKS	EQ992732043	40.93	78.46	56	6.5	0.8	0.12	102.87	-24.972	179.63	521.9	B
AKSUxx_XW	PKS	EQ992151558	41.14	80.11	69	2.5	1.9	0.48	328.06	-3.453	-79.162	88.1	B
AKSUxx_XW	SKKS	EQ000050740	41.14	80.11	26	13.5	1.45	0.8	101.62	-11.371	165.378	33	B
AKSUxx_XW	SKKS	EQ000132007	41.14	80.11	23	10.5	1.2	0.45	96.48	-17.61	-178.742	535	B
AKSUxx_XW	SKKS	EQ001252036	41.14	80.11	22	6	0.95	0.3	96.59	-17.914	-178.522	515.8	B
AKSUxx_XW	SKKS	EQ001292135	41.14	80.11	40	5.5	0.95	0.2	109.33	-31.319	179.839	383.1	B
AKSUxx_XW	SKKS	EQ002160109	41.14	80.11	40	11	1	0.35	101.43	-12.037	166.448	33	B
AKSUxx_XW	SKS	EQ000081647	41.14	80.11	24	9	1	0.25	93.07	-16.925	-174.248	183.4	B
AKSUxx_XW	SKS	EQ000602244	41.14	80.11	61	8.5	1.45	0.3	104.5	-18.158	169.014	33	B
AKSUxx_XW	SKS	EQ001091728	41.14	80.11	26	3.5	1.2	0.2	97.66	-20.664	-176.469	220.7	B
AKSUxx_XW	SKS	EQ001252036	41.14	80.11	35	4	0.9	0.1	96.59	-17.914	-178.522	515.8	B
AKSUxx_XW	SKS	EQ001271344	41.14	80.11	36	6.5	1	0.23	101.53	-11.295	165.432	12	A
AKSUxx_XW	SKS	EQ001541113	41.14	80.11	45	8.5	1.5	0.45	21.09	44.513	-130.081	10	B
AKSUxx_XW	SKS	EQ001620917	41.14	80.11	36	9.5	1.5	0.43	101.12	-11.448	166.239	33	B
AKSUxx_XW	SKS	EQ001660215	41.14	80.11	49	16.5	0.7	0.33	105.12	-25.516	178.046	604.6	B
AKSUxx_XW	SKS	EQ001981725	41.14	80.11	41	14.5	1.1	0.38	101.67	-12.404	166.509	33	B
AKSUxx_XW	SKS	EQ002132244	41.14	80.11	33	12.5	0.95	0.33	99.92	-16.697	174.542	10	B
AKSUxx_XW	SKS	EQ991991034	41.14	80.11	48	8	1	0.23	101.76	-22.546	179.412	590.9	B
AKSUxx_XW	SKS	EQ992140947	41.14	80.11	44	8	0.8	0.15	101.36	-12.55	167.175	251.2	B
AKSUxx_XW	SKS	EQ992370706	41.14	80.11	40	16	0.9	0.4	104.84	-19.059	169.612	263.4	B
AKSUxx_XW	SKS	EQ992601454	41.14	80.11	43	11	0.9	0.3	102.26	-13.79	167.238	196.8	A
AKSUxx_XW	SKS	EQ993632253	41.14	80.11	41	9	1.05	0.27	101.5	-11.165	165.33	33	B

AMLxxx_KN	PKS	EQ021691356	42.13	73.69	76	6	1.3	0.25	280.4	-30.805	-71.124	54	B
AMLxxx_KN	PKS	EQ070550236	42.13	73.69	-56	4.5	1.85	0.38	319.5	-7.006	-80.485	23	B
AMLxxx_KN	PKS	EQ101390415	42.13	73.69	-64	14.5	0.9	0.32	317.2	-5.083	-77.541	132	B
AMLxxx_KN	PKS	EQ962490814	42.13	73.69	67	8	0.9	0.18	18.87	-22.118	-113.44	10	B
AMLxxx_KN	SKKS	EQ000261326	42.13	73.69	-38	15	0.7	0.25	88.52	-17.272	-174	33	B
AMLxxx_KN	SKKS	EQ001292135	42.13	73.69	90	1.5	1.2	0.1	105.4	-31.319	179.839	383.1	A
AMLxxx_KN	SKKS	EQ011461057	42.13	73.69	-55	16	0.75	0.25	93.71	-20.292	-177.84	406.5	B
AMLxxx_KN	SKKS	EQ023160146	42.13	73.69	-76	5.5	1.85	0.35	224.8	-56.55	-27.536	120	B
AMLxxx_KN	SKKS	EQ040251143	42.13	73.69	-49	13	0.7	0.18	88.26	-16.83	-174.2	129.8	B
AMLxxx_KN	SKKS	EQ043282104	42.13	73.69	89	2.5	1.6	0.3	99.25	-24.294	178.99	532.3	B
AMLxxx_KN	SKKS	EQ051011708	42.13	73.69	-88	1.5	1.6	0.2	102.4	-21.975	170.612	68	B
AMLxxx_KN	SKKS	EQ051380910	42.13	73.69	-89	12	0.95	0.22	224.8	-56.413	-26.863	102.2	B
AMLxxx_KN	SKKS	EQ071262111	42.13	73.69	-23	17	0.4	0.12	93.91	-19.401	-179.35	676.4	B
AMLxxx_KN	SKKS	EQ081050945	42.13	73.69	-76	8	0.85	0.17	225.6	-56.022	-28.035	140.2	B
AMLxxx_KN	SKKS	EQ081172334	42.13	73.69	-88	5.5	1.7	0.28	130.3	-49.091	164.117	10	B
AMLxxx_KN	SKKS	EQ092170831	42.13	73.69	-75	9	1.9	0.48	125.9	-45.554	166.356	10	B
AMLxxx_KN	SKKS	EQ111081303	42.13	73.69	-89	9.5	1.25	0.48	108.3	-34.336	179.874	86	B
AMLxxx_KN	SKKS	EQ942062200	42.13	73.69	-68	8.5	1.3	0.33	225	-56.362	-27.365	81.3	B
AMLxxx_KN	SKKS	EQ971020921	42.13	73.69	90	1.5	1.55	0.17	101.3	-28.171	-178.37	183.6	B
AMLxxx_KN	SKKS	EQ991101904	42.13	73.69	85	16.5	0.7	0.23	105.3	-31.888	-179.04	95.7	B
AMLxxx_KN	SKS	EQ001252036	42.13	73.69	-13	11.5	0.6	0.2	92.09	-17.914	-178.52	515.8	B
AMLxxx_KN	SKS	EQ001271344	42.13	73.69	-3	5	0.85	0.32	97.26	-11.295	165.432	12	B
AMLxxx_KN	SKS	EQ001981725	42.13	73.69	-1	2	1.85	0.4	97.4	-12.404	166.509	33	B
AMLxxx_KN	SKS	EQ011180449	42.13	73.69	-28	17.5	0.45	0.17	91.17	-18.064	-176.94	351.8	B
AMLxxx_KN	SKS	EQ011461057	42.13	73.69	-28	18	0.5	0.2	93.71	-20.292	-177.84	406.5	B
AMLxxx_KN	SKS	EQ011850706	42.13	73.69	-13	11.5	0.75	0.28	94.26	-21.725	-176.71	184.6	B
AMLxxx_KN	SKS	EQ012221624	42.13	73.69	-6	8.5	0.75	0.28	98.77	-14.7	167.106	82	B
AMLxxx_KN	SKS	EQ013360247	42.13	73.69	-6	5.5	0.85	0.43	97.55	-12.738	166.664	100.5	B
AMLxxx_KN	SKS	EQ020980348	42.13	73.69	83	10	0.9	0.2	142.6	-51.068	139.269	10	B
AMLxxx_KN	SKS	EQ021682126	42.13	73.69	-5	2.5	0.8	0.17	97.62	-12.592	166.383	33	B
AMLxxx_KN	SKS	EQ021800239	42.13	73.69	-6	4.5	1.05	0.25	97.38	-12.4	166.524	33	B
AMLxxx_KN	SKS	EQ022190450	42.13	73.69	-25	12	0.45	0.1	94.31	-21.865	-176.58	174.2	B
AMLxxx_KN	SKS	EQ022211331	42.13	73.69	-39	9	0.7	0.15	89.15	-16.309	-176.17	364.1	B
AMLxxx_KN	SKS	EQ022500814	42.13	73.69	-19	4.5	0.6	0.1	92.53	-20.275	-176.04	209.9	B
AMLxxx_KN	SKS	EQ022951139	42.13	73.69	-10	10	0.7	0.22	94.36	-20.633	-178.39	549	A
AMLxxx_KN	SKS	EQ031292026	42.13	73.69	-76	3	1.75	0.3	206.5	-48.209	32.272	10	B
AMLxxx_KN	SKS	EQ032080204	42.13	73.69	-11	15	0.85	0.45	93.6	-21.08	-176.59	212.9	A
AMLxxx_KN	SKS	EQ041740904	42.13	73.69	-6	8	0.85	0.45	96.42	-10.902	166.259	152.8	B
AMLxxx_KN	SKS	EQ060022213	42.13	73.69	-30	19.5	0.5	0.2	93.6	-19.926	-178.18	582.9	B
AMLxxx_KN	SKS	EQ060570308	42.13	73.69	-6	5.5	0.8	0.2	98.01	-23.607	-179.99	535.2	B
AMLxxx_KN	SKS	EQ060712054	42.13	73.69	87	2	1.65	0.17	100.5	-5.075	153.657	47.3	B
AMLxxx_KN	SKS	EQ061991602	42.13	73.69	-21	7.5	0.7	0.15	93.91	-20.084	-178.43	587.2	B
AMLxxx_KN	SKS	EQ062192218	42.13	73.69	-10	5.5	0.45	0.1	99.18	-15.798	167.789	150	B

AMLxxx_KN	SKS	EQ062462257	42.13	73.69	-12	9	0.95	0.3	99.14	-24	178.817	568.1	B
AMLxxx_KN	SKS	EQ062881707	42.13	73.69	-84	14	1.05	0.35	47.42	19.88	-155.937	39.1	B
AMLxxx_KN	SKS	EQ063171612	42.13	73.69	-87	2.5	1.55	0.37	103.1	-6.38	151.23	11	B
AMLxxx_KN	SKS	EQ071262111	42.13	73.69	-20	8	0.6	0.13	93.91	-19.4	-179.354	676.4	B
AMLxxx_KN	SKS	EQ072150041	42.13	73.69	-83	15	1	0.33	150.2	-63	145.306	6	B
AMLxxx_KN	SKS	EQ072381237	42.13	73.69	-29	16	0.65	0.2	88.9	-17.5	-174.335	127.4	B
AMLxxx_KN	SKS	EQ081551620	42.13	73.69	-1	5.5	0.85	0.25	99.39	-10.5	161.273	84	B
AMLxxx_KN	SKS	EQ092170831	42.13	73.69	-79	6.5	1.35	0.28	125.9	-45.6	166.356	10	A
AMLxxx_KN	SKS	EQ092812116	42.13	73.69	-4	3	0.85	0.2	97.91	-12.9	166.314	35	B
AMLxxx_KN	SKS	EQ101010940	42.13	73.69	-6	6	1.15	0.43	99.77	-10.9	161.116	21	B
AMLxxx_KN	SKS	EQ102222318	42.13	73.69	-4	2	1.05	0.22	98.43	-14.5	167.345	191.6	B
AMLxxx_KN	SKS	EQ102461635	42.13	73.69	-76	16	0.9	0.38	121.5	-43.5	171.83	12	B
AMLxxx_KN	SKS	EQ110931407	42.13	73.69	-18	4.5	0.55	0.1	91.89	-17.6	-178.585	551.7	B
AMLxxx_KN	SKS	EQ111081303	42.13	73.69	-88	5	1.5	0.3	108.3	-34.3	179.874	86	A
AMLxxx_KN	SKS	EQ940902240	42.13	73.69	-9	3.5	0.75	0.18	96.35	-22.1	-179.533	579.8	A
AMLxxx_KN	SKS	EQ941102335	42.13	73.69	-28	5.5	0.6	0.12	91.91	-17.8	-178.404	543.1	B
AMLxxx_KN	SKS	EQ982001558	42.13	73.69	-11	11	0.75	0.3	93.78	-21.8	-175.792	72.1	B
AMLxxx_KN	SKS	EQ991031038	42.13	73.69	-11	18.5	0.7	0.43	93.83	-21.4	-176.46	164.2	B
AMLxxx_KN	SKS	EQ992601454	42.13	73.69	-7	8.5	0.95	0.3	97.98	-13.8	167.238	196.8	A
AMLxxx_KN	SKS	EQ993631915	42.13	73.69	-7	5	1.35	0.38	97.14	-11	165.251	33	B
EKS2xx_KN	PKS	EQ052690155	42.66	73.78	-54	8.5	1.65	0.6	315.9	-5.68	-76.398	115	A
EKS2xx_KN	PKS	EQ092881748	42.66	73.78	65	7.5	1.35	0.45	356.7	3.272	-103.823	10	B
EKS2xx_KN	PKS	EQ101390415	42.66	73.78	-74	10	0.8	0.17	317.7	-5.08	-77.541	132	B
EKS2xx_KN	PKS	EQ101441618	42.66	73.78	-67	14.5	0.85	0.4	308.4	-8.09	-71.558	581.2	B
EKS2xx_KN	PKS	EQ970911842	42.66	73.78	46	4	1.3	0.22	296.3	-18.4	-69.347	115.6	B
EKS2xx_KN	SKKS	EQ001252036	42.66	73.78	26	4	1.1	0.17	91.9	-17.9	-178.522	515.8	B
EKS2xx_KN	SKKS	EQ001292135	42.66	73.78	65	9	0.75	0.15	105.1	-31.3	179.839	383.1	B
EKS2xx_KN	SKKS	EQ002280430	42.66	73.78	54	16	0.75	0.3	105.3	-31.5	179.725	357.7	B
EKS2xx_KN	SKKS	EQ003530119	42.66	73.78	21	8.5	1.1	0.35	95.11	-21.2	-179.124	628.2	B
EKS2xx_KN	SKKS	EQ012731901	42.66	73.78	30	9	1.2	0.33	101	-18.4	168.121	33	B
EKS2xx_KN	SKKS	EQ031171603	42.66	73.78	64	15	0.75	0.22	101.9	-20.9	169.773	77.4	B
EKS2xx_KN	SKKS	EQ043282104	42.66	73.78	48	14	0.7	0.23	99.04	-24.3	178.99	532.3	B
EKS2xx_KN	SKKS	EQ051011708	42.66	73.78	45	9	0.9	0.22	102.2	-22	170.612	68	B
EKS2xx_KN	SKKS	EQ060331248	42.66	73.78	38	10	0.7	0.13	91.67	-17.7	-178.39	597.5	B
EKS2xx_KN	SKKS	EQ060570308	42.66	73.78	35	17.5	0.6	0.3	97.8	-23.6	-179.989	535.2	B
EKS2xx_KN	SKKS	EQ062231430	42.66	73.78	63	2.5	1.55	0.17	354.4	18.54	-101.048	56	A
EKS2xx_KN	SKKS	EQ062462257	42.66	73.78	39	4.5	0.9	0.13	98.93	-24	178.817	568.1	B
EKS2xx_KN	SKKS	EQ071262111	42.66	73.78	30	13	0.95	0.4	93.72	-19.4	-179.354	676.4	B
EKS2xx_KN	SKKS	EQ072381237	42.66	73.78	49	21.5	0.55	0.38	88.69	-17.5	-174.335	127.4	B
EKS2xx_KN	SKKS	EQ072780717	42.66	73.78	39	6.5	0.8	0.12	99.56	-25.2	179.459	509.4	A
EKS2xx_KN	SKKS	EQ072892105	42.66	73.78	36	7	0.85	0.2	100.1	-25.8	179.53	509.3	A
EKS2xx_KN	SKKS	EQ081172334	42.66	73.78	72	3.5	2.2	0.23	130.1	-49.1	164.117	10	B
EKS2xx_KN	SKKS	EQ082392100	42.66	73.78	-58	8.5	1.15	0.7	312	-7.64	-74.377	154	B

EKS2xx_KN	SKKS	EQ082521852	42.66	73.78	51	14	0.65	0.27	97.89	-13.5	166.967	110	B
EKS2xx_KN	SKKS	EQ090492153	42.66	73.78	41	6	1.35	0.22	99.09	-27.42	-176.33	25	B
EKS2xx_KN	SKKS	EQ091160006	42.66	73.78	33	14	1.05	0.37	103.2	-30.3	-178.58	131.7	B
EKS2xx_KN	SKKS	EQ092850937	42.66	73.78	62	17	0.7	0.35	97.37	-12.41	166.498	42	B
EKS2xx_KN	SKKS	EQ110521057	42.66	73.78	48	12	0.65	0.17	101.1	-26.14	178.394	558.1	A
EKS2xx_KN	SKKS	EQ110931407	42.66	73.78	19	15	0.85	0.38	91.71	-17.64	-178.59	551.7	B
EKS2xx_KN	SKKS	EQ111081303	42.66	73.78	38	13	1.05	0.4	108.1	-34.34	179.874	86	B
EKS2xx_KN	SKKS	EQ940902240	42.66	73.78	31	7	0.9	0.2	96.14	-22.06	-179.53	579.8	B
EKS2xx_KN	SKKS	EQ952281504	42.66	73.78	54	5	0.8	0.1	106	-31.95	179.362	463	A
EKS2xx_KN	SKKS	EQ952870800	42.66	73.78	25	13	0.95	0.43	98.24	-25.76	-177.52	147.9	B
EKS2xx_KN	SKKS	EQ960821731	42.66	73.78	43	7	0.9	0.2	108.5	-35.24	-179.21	33	B
EKS2xx_KN	SKKS	EQ981901445	42.66	73.78	47	17	0.65	0.2	103.6	-30.49	-178.99	129.5	B
EKS2xx_KN	SKKS	EQ981991641	42.66	73.78	39	5	1.1	0.15	100.9	-18.37	168.173	33	B
EKS2xx_KN	SKKS	EQ991101904	42.66	73.78	38	14	0.85	0.28	105	-31.89	-179.04	95.7	B
EKS2xx_KN	SKS	EQ001252036	42.66	73.78	50	10	0.9	0.17	91.9	-17.91	-178.52	515.8	B
EKS2xx_KN	SKS	EQ001271344	42.66	73.78	23	8	0.9	0.3	97.23	-11.3	165.432	12	A
EKS2xx_KN	SKS	EQ002781658	42.66	73.78	52	12	0.65	0.15	99.4	-15.42	166.91	23	B
EKS2xx_KN	SKS	EQ003301646	42.66	73.78	49	14	0.95	0.27	100.9	-5.425	153.605	33	B
EKS2xx_KN	SKS	EQ010091649	42.66	73.78	38	8	0.7	0.15	98.85	-14.93	167.17	103	A
EKS2xx_KN	SKS	EQ010802047	42.66	73.78	34	10	0.8	0.23	100.6	-4.527	153.114	33	B
EKS2xx_KN	SKS	EQ011461057	42.66	73.78	42	16	0.65	0.22	93.5	-20.29	-177.84	406.5	B
EKS2xx_KN	SKS	EQ011850706	42.66	73.78	48	7	0.75	0.1	94.03	-21.73	-176.71	184.6	B
EKS2xx_KN	SKS	EQ012221624	42.66	73.78	34	12	0.75	0.2	98.72	-14.7	167.106	82	B
EKS2xx_KN	SKS	EQ012550848	42.66	73.78	48	8	0.8	0.1	94.93	-20.99	-179.11	608.1	A
EKS2xx_KN	SKS	EQ012731901	42.66	73.78	63	18	0.5	0.25	101	-18.42	168.121	33	B
EKS2xx_KN	SKS	EQ013360247	42.66	73.78	42	16	0.65	0.22	97.51	-12.74	166.664	100.5	B
EKS2xx_KN	SKS	EQ013461253	42.66	73.78	57	13	0.55	0.15	100.2	-17.19	167.721	33	B
EKS2xx_KN	SKS	EQ013572252	42.66	73.78	24	7	1.2	0.3	99.9	-9.613	159.53	16	B
EKS2xx_KN	SKS	EQ021280526	42.66	73.78	33	16	0.95	0.5	89.28	-17.95	-174.57	130.8	B
EKS2xx_KN	SKS	EQ021682126	42.66	73.78	44	15	0.7	0.28	97.58	-12.59	166.383	33	B
EKS2xx_KN	SKS	EQ022951139	42.66	73.78	38	12	0.65	0.17	94.16	-20.63	-178.39	549	B
EKS2xx_KN	SKS	EQ031241315	42.66	73.78	79	14	1.7	0.7	103.2	-30.53	-178.23	62.4	B
EKS2xx_KN	SKS	EQ031332121	42.66	73.78	51	18	0.9	0.42	100.3	-17.29	167.744	33	B
EKS2xx_KN	SKS	EQ031630859	42.66	73.78	52	17	0.45	0.28	100.5	-5.985	154.758	186.3	B
EKS2xx_KN	SKS	EQ031651828	42.66	73.78	25	6	1.05	0.27	100.3	-7.583	156.782	405.8	B
EKS2xx_KN	SKS	EQ032080204	42.66	73.78	41	4	0.65	0.05	93.38	-21.08	-176.59	212.9	A
EKS2xx_KN	SKS	EQ032420005	42.66	73.78	39	9	0.95	0.18	98.7	-14.8	167.238	137	B
EKS2xx_KN	SKS	EQ032731408	42.66	73.78	67	9	1.15	0.2	102.7	-30.44	-177.4	10	B
EKS2xx_KN	SKS	EQ032791829	42.66	73.78	36	16	0.6	0.2	97.5	-10.75	164.417	33	B
EKS2xx_KN	SKS	EQ033101038	42.66	73.78	60	11	0.65	0.1	101.1	-19.26	168.892	113.7	A
EKS2xx_KN	SKS	EQ033520541	42.66	73.78	27	4	1.35	0.3	103.1	-6.347	151.384	53.6	B
EKS2xx_KN	SKS	EQ042820827	42.66	73.78	61	11	0.95	0.2	99.14	-10.95	162.161	36	B
EKS2xx_KN	SKS	EQ050382002	42.66	73.78	33	9	0.9	0.28	100.5	-4.525	153.187	36.5	A
EKS2xx_KN	SKS	EQ051660250	42.66	73.78	60	10	1.65	0.33	14.79	41.292	-125.95	16	B

EKS2xx_KN	SKS	EQ051661013	42.66	73.8	30	6	0.95	0.2	101	-4.595	153.191	74.6	B
EKS2xx_KN	SKS	EQ052590031	42.66	73.8	39	7	0.95	0.23	101	-5.622	153.592	10.7	B
EKS2xx_KN	SKS	EQ060570308	42.66	73.8	60	9.5	0.75	0.18	97.8	-23.61	-179.99	535.2	B
EKS2xx_KN	SKS	EQ060660628	42.66	73.8	35	17	0.65	0.25	98.6	-14.81	167.368	136.2	B
EKS2xx_KN	SKS	EQ060712054	42.66	73.8	37	12	0.75	0.23	101	-5.075	153.657	47.3	B
EKS2xx_KN	SKS	EQ062192218	42.66	73.8	52	9.5	0.6	0.13	99.1	-15.8	167.789	150	B
EKS2xx_KN	SKS	EQ062231430	42.66	73.8	61	2.5	1.25	0.15	354	18.54	-101.05	56	B
EKS2xx_KN	SKS	EQ062462257	42.66	73.8	54	12.5	0.8	0.25	98.9	-24.05	178.817	568.1	B
EKS2xx_KN	SKS	EQ062881707	42.66	73.8	-74	19	1.35	0.5	47.4	19.88	-155.94	39.1	B
EKS2xx_KN	SKS	EQ063171612	42.66	73.8	40	9.5	0.75	0.23	103	-6.38	151.23	11	B
EKS2xx_KN	SKS	EQ070231716	42.66	73.8	40	11.5	0.95	0.25	97.5	-13.1	167.054	188.1	B
EKS2xx_KN	SKS	EQ071151334	42.66	73.8	23	7.5	0.95	0.25	98.6	-14.29	166.863	55	B
EKS2xx_KN	SKS	EQ071210015	42.66	73.8	25	7	1	0.35	101	-7.124	155.134	9	B
EKS2xx_KN	SKS	EQ071262111	42.66	73.8	44	9.5	0.65	0.15	93.7	-19.4	-179.35	676.4	B
EKS2xx_KN	SKS	EQ071870109	42.66	73.8	60	8.5	1.55	0.6	346	16.35	-93.99	113	B
EKS2xx_KN	SKS	EQ071960927	42.66	73.8	26	3	0.9	0.15	98.3	-15.38	168.597	8	B
EKS2xx_KN	SKS	EQ072131708	42.66	73.8	36	15.5	0.8	0.3	99	-15.6	167.68	120	B
EKS2xx_KN	SKS	EQ072381237	42.66	73.8	42	11	0.7	0.15	88.7	-17.46	-174.34	127.4	B
EKS2xx_KN	SKS	EQ072780717	42.66	73.8	61	9	0.7	0.12	99.6	-25.19	179.459	509.4	B
EKS2xx_KN	SKS	EQ072821503	42.66	73.8	36	7	0.85	0.2	101	-4.808	152.892	39	A
EKS2xx_KN	SKS	EQ072892105	42.66	73.8	63	13.5	0.75	0.17	100	-25.78	179.53	509.3	B
EKS2xx_KN	SKS	EQ081551620	42.66	73.8	39	13.5	0.6	0.22	99.4	-10.51	161.273	84	B
EKS2xx_KN	SKS	EQ082010927	42.66	73.8	20	9.5	1.2	0.6	97.7	-11.04	164.493	11	B
EKS2xx_KN	SKS	EQ082012239	42.66	73.8	47	8	0.6	0.1	90.6	-17.34	-177.31	391	B
EKS2xx_KN	SKS	EQ082520303	42.66	73.8	27	3.5	1.35	0.22	102	-19.96	169.108	36	B
EKS2xx_KN	SKS	EQ082531222	42.66	73.8	29	10	0.75	0.3	101	-9.272	158.261	12	B
EKS2xx_KN	SKS	EQ082731519	42.66	73.8	75	20	0.95	0.35	102	-29.76	-177.68	36	B
EKS2xx_KN	SKS	EQ083091835	42.66	73.8	60	7.5	0.7	0.13	99.7	-17.14	168.458	205.7	A
EKS2xx_KN	SKS	EQ083451315	42.66	73.8	30	16	0.7	0.28	97.3	-12.34	166.572	51	B
EKS2xx_KN	SKS	EQ091081749	42.66	73.8	51	7	0.95	0.18	94.2	-20.61	-178.48	566.1	B
EKS2xx_KN	SKS	EQ091160006	42.66	73.8	62	13.5	0.7	0.2	103	-30.3	-178.58	131.7	B
EKS2xx_KN	SKS	EQ091630944	42.66	73.8	30	10	1.2	0.45	101	-17.61	167.812	15	B
EKS2xx_KN	SKS	EQ092170831	42.66	73.8	-68	11.5	1.45	0.6	126	-45.55	166.356	10	B
EKS2xx_KN	SKS	EQ092812116	42.66	73.8	44	12	0.65	0.13	97.9	-12.91	166.314	35	A
EKS2xx_KN	SKS	EQ092961514	42.66	73.8	61	10	0.6	0.1	97.5	-12.2	166.047	31.1	B
EKS2xx_KN	SKS	EQ100631402	42.66	73.8	35	13.5	0.75	0.3	97.8	-13.57	167.227	176	A
EKS2xx_KN	SKS	EQ101010940	42.66	73.8	54	16	0.6	0.2	99.8	-10.88	161.116	21	B
EKS2xx_KN	SKS	EQ101732216	42.66	73.8	28	14	0.8	0.28	92.4	-19.2	-177.55	562.5	B
EKS2xx_KN	SKS	EQ102222318	42.66	73.8	35	5	0.75	0.12	98.4	-14.46	167.345	191.6	A
EKS2xx_KN	SKS	EQ102470852	42.66	73.8	59	17	0.6	0.25	88.4	-17.37	-174	69	B
EKS2xx_KN	SKS	EQ103470114	42.66	73.8	29	4	0.85	0.15	100	-6.534	155.647	135.8	B
EKS2xx_KN	SKS	EQ110521057	42.66	73.8	56	11	0.75	0.17	101	-26.14	178.394	558.1	B
EKS2xx_KN	SKS	EQ110931407	42.66	73.8	31	14.5	0.55	0.25	91.7	-17.64	-178.59	551.7	A
EKS2xx_KN	SKS	EQ111130416	42.66	73.8	43	10	0.7	0.15	99.4	-10.38	161.2	79	B

EKS2xx_KN	SKS	EQ11190135	42.7	73.8	58	10	1.1	0.25	101.5	-29.39	-177.12	19	B
EKS2xx_KN	SKS	EQ94090224	42.7	73.8	54	16	0.6	0.2	96.14	-22.06	-179.533	579.8	B
EKS2xx_KN	SKS	EQ94108172	42.7	73.8	24	8.5	1.15	0.43	100.7	-6.47	154.934	26.3	B
EKS2xx_KN	SKS	EQ94194023	42.7	73.8	58	8.5	0.6	0.1	99.93	-16.62	167.518	33	A
EKS2xx_KN	SKS	EQ95175065	42.7	73.8	35	8	0.8	0.23	99.58	-3.959	153.93	386	B
EKS2xx_KN	SKS	EQ95180122	42.7	73.8	38	12	0.75	0.18	101.1	-19.54	169.287	139.4	B
EKS2xx_KN	SKS	EQ95209142	42.7	73.8	36	17	0.45	0.15	92.69	-21.18	-175.394	92.4	B
EKS2xx_KN	SKS	EQ95259010	42.7	73.8	32	5	1.35	0.28	100.4	-6.323	155.207	151	B
EKS2xx_KN	SKS	EQ95279113	42.7	73.8	55	13	0.5	0.1	91.98	-20	-175.921	197.8	B
EKS2xx_KN	SKS	EQ96091234	42.7	73.8	30	10	0.8	0.2	97.01	-11.18	165.644	33	B
EKS2xx_KN	SKS	EQ98197115	42.7	73.8	22	15	0.8	0.38	96.56	-11.04	166.16	110.2	B
EKS2xx_KN	SKS	EQ98361003	42.7	73.8	17	11	1.55	0.7	93.73	-21.63	-176.376	144.3	B
EKS2xx_KN	SKS	EQ99103103	42.7	73.8	30	15	0.7	0.2	93.6	-21.42	-176.46	164.2	B
EKS2xx_KN	SKS	EQ99260145	42.7	73.8	33	5	0.9	0.15	97.93	-13.79	167.238	196.8	B
EKSxxx_KR	PKS	EQ09288174	42.7	73.8	65	5	1.9	0.38	356.7	3.272	-103.823	10	B
EKSxxx_KR	PKS	EQ10139041	42.7	73.8	-70	19	0.5	0.25	317.7	-5.083	-77.541	132	B
EKSxxx_KR	PKS	EQ10144161	42.7	73.8	-67	6	1.05	0.27	308.5	-8.087	-71.558	581.2	B
EKSxxx_KR	SKKS	EQ08239210	42.7	73.8	-59	6	1.45	0.6	312	-7.641	-74.377	154	B
EKSxxx_KR	SKKS	EQ09116000	42.7	73.8	49	14	0.75	0.17	103.2	-30.3	-178.582	131.7	B
EKSxxx_KR	SKKS	EQ09230212	42.7	73.8	50	5	0.7	0.08	99.05	-26.06	-178.391	269.8	A
EKSxxx_KR	SKKS	EQ10224115	42.7	73.8	-53	11	1.35	0.62	320	-1.266	-77.306	206.7	B
EKSxxx_KR	SKS	EQ08145132	42.7	73.8	65	12	0.75	0.2	100.5	-7.181	156.069	29	B
EKSxxx_KR	SKS	EQ08155162	42.7	73.8	51	9.5	0.5	0.07	99.41	-10.51	161.273	84	B
EKSxxx_KR	SKS	EQ08185030	42.7	73.8	74	7.5	1.05	0.3	97.46	-23.37	-179.778	581.2	B
EKSxxx_KR	SKS	EQ08345131	42.7	73.8	66	20	0.6	0.3	97.27	-12.34	166.572	51	B
EKSxxx_KR	SKS	EQ09144005	42.7	73.8	61	15	0.9	0.25	103.9	-31.48	-177.683	4	B
EKSxxx_KR	SKS	EQ09221070	42.7	73.8	30	13	0.7	0.23	100.6	-4.62	153.187	49	B
EKSxxx_KR	SKS	EQ09222040	42.7	73.8	40	17	0.5	0.2	97.04	-11.61	166.09	35	B
EKSxxx_KR	SKS	EQ09230212	42.7	73.8	74	4	1.45	0.2	99.05	-26.06	-178.391	269.8	B
EKSxxx_KR	SKS	EQ10173221	42.7	73.8	41	21	0.4	0.33	92.36	-19.2	-177.553	562.5	B
EKSxxx_KR	SKS	EQ10179181	42.7	73.8	55	11	0.6	0.13	98.53	-8.947	160.863	35	B
EKSxxx_KR	SKS	EQ10222231	42.7	73.8	42	6.5	0.6	0.1	98.38	-14.46	167.345	191.6	A
EKSxxx_KR	SKS	EQ10247085	42.7	73.8	66	12	0.7	0.23	88.38	-17.37	-173.999	69	B
FRU1xx_KR	PKS	EQ13224094	42.8	74.6	67	1.5	2.15	0.28	324.2	-5.396	-81.927	10	B
FRU1xx_KR	SKKS	EQ13224041	42.8	74.6	24	2	1.9	0.4	104.5	-30.62	-179.613	325.2	B
FRU1xx_KR	SKKS	EQ14049092	42.8	74.6	86	18	1	0.68	312.2	14.651	-58.948	16.9	B
FRU1xx_KR	SKS	EQ11237103	42.8	74.6	27	3.5	1.65	0.25	98.47	-13.6	166.996	158.6	B
FRU1xx_KR	SKS	EQ13092143	42.8	74.6	34	6.5	1.85	0.73	201.9	-40.46	45.364	9	B
HLQIxx_XW	PKS	EQ99240124	40.8	78	81	3.5	1.7	0.18	324.3	-1.287	-77.549	196.4	B
HLQIxx_XW	SKKS	EQ00114092	40.8	78	47	4.5	1	0.12	279	-28.31	-62.99	608.5	B
HLQIxx_XW	SKKS	EQ99258030	40.8	78	90	9	0.8	0.2	293.4	-20.93	-67.275	218	B
HLQIxx_XW	SKKS	EQ99325035	40.8	78	57	11	1	0.25	294	-21.75	-68.78	101.2	B
HLQIxx_XW	SKS	EQ99237070	40.8	78	60	4	1.25	0.13	103.6	-19.06	169.612	263.4	B
HLQIxx_XW	SKS	EQ99260145	40.8	78	59	8	0.7	0.13	100.9	-13.79	167.238	196.8	B

KBKxxx_K	PKS	EQ022852009	42.66	74.95	63	6.5	0.95	0.17	309.8	-8.295	-71.74	534.3	B
KBKxxx_K	PKS	EQ052690155	42.66	74.95	64	9	1.3	0.5	317.3	-5.678	-76.4	115	A
KBKxxx_K	PKS	EQ080411222	42.66	74.95	-70	9	0.8	0.25	219.6	-60.8	-25.59	8	A
KBKxxx_K	PKS	EQ101390415	42.66	74.95	84	16.5	0.7	0.23	319.1	-5.083	-77.54	132	B
KBKxxx_K	PKS	EQ101441618	42.66	74.95	81	5	0.85	0.1	309.8	-8.087	-71.56	581.2	A
KBKxxx_K	PKS	EQ992151558	42.66	74.95	-71	20	0.55	0.25	322.2	-3.453	-79.16	88.1	B
KBKxxx_K	SKKS	EQ001140927	42.66	74.95	84	3.5	1.3	0.3	279.1	-28.31	-62.99	608.5	B
KBKxxx_K	SKKS	EQ011801835	42.66	74.95	-83	3.5	0.8	0.15	293	-19.52	-66.25	273.9	A
KBKxxx_K	SKKS	EQ032650445	42.66	74.95	-89	11	1.1	0.23	325.5	19.78	-70.67	10	B
KBKxxx_K	SKKS	EQ040770321	42.66	74.95	85	16	0.75	0.25	290.6	-21.12	-65.59	289.8	B
KBKxxx_K	SKKS	EQ043282104	42.66	74.95	78	7	1.35	0.35	99.76	-24.29	178.99	532.3	B
KBKxxx_K	SKKS	EQ062231430	42.66	74.95	67	3.5	1.15	0.2	355.7	18.54	-101	56	B
KBKxxx_K	SKKS	EQ062370044	42.66	74.95	-85	4	1.8	0.47	287.9	-24.4	-67.03	184	B
KBKxxx_K	SKKS	EQ072780717	42.66	74.95	77	6.5	1.45	0.35	100.3	-25.19	179.46	509.4	B
KBKxxx_K	SKKS	EQ072892105	42.66	74.95	80	9	1.3	0.42	100.8	-25.78	179.53	509.3	B
KBKxxx_K	SKKS	EQ091440058	42.66	74.95	80	16.5	1.25	0.43	104.5	-31.48	-177.7	4	B
KBKxxx_K	SKKS	EQ103420524	42.66	74.95	69	19.5	0.7	0.35	225.1	-56.41	-25.74	29.4	B
KBKxxx_K	SKKS	EQ111081303	42.66	74.95	67	9.5	1.55	0.3	108.7	-34.34	179.87	86	B
KBKxxx_K	SKKS	EQ943410337	42.66	74.95	87	17	1.6	0.6	288.8	-23.42	-66.64	235	B
KBKxxx_K	SKKS	EQ952281504	42.66	74.95	76	6	1.35	0.22	106.6	-31.95	179.36	463	A
KBKxxx_K	SKKS	EQ970230215	42.66	74.95	-83	4	1	0.3	289.6	-22	-65.72	276.2	B
KBKxxx_K	SKKS	EQ991101904	42.66	74.95	83	8	1.8	0.45	105.7	-31.89	-179	95.7	B
KBKxxx_K	SKKS	EQ992580301	42.66	74.95	-87	7.5	0.85	0.22	292.5	-20.93	-67.28	218	A
KBKxxx_K	SKS	EQ002280430	42.66	74.95	75	13.5	1	0.35	106	-31.51	179.73	357.7	A
KBKxxx_K	SKS	EQ003530119	42.66	74.95	81	4.5	1.6	0.53	95.85	-21.18	-179.1	628.2	B
KBKxxx_K	SKS	EQ010091649	42.66	74.95	87	4	1.85	0.48	99.61	-14.93	167.17	103	B
KBKxxx_K	SKS	EQ021800239	42.66	74.95	88	3.5	1.55	0.45	98.12	-12.4	166.52	33	B
KBKxxx_K	SKS	EQ031292026	42.66	74.95	85	14.5	0.65	0.2	207.3	-48.21	32.272	10	A
KBKxxx_K	SKS	EQ031651828	42.66	74.95	72	20.5	1.1	0.5	101.1	-7.583	156.78	405.8	B
KBKxxx_K	SKS	EQ032030421	42.66	74.95	59	17	1.4	0.58	100.7	-15.42	166.14	33	B
KBKxxx_K	SKS	EQ042721529	42.66	74.95	77	18	0.45	0.25	207.3	-52.52	28.016	10	B
KBKxxx_K	SKS	EQ060660628	42.66	74.95	82	4	1.65	0.33	99.39	-14.81	167.37	136.2	A
KBKxxx_K	SKS	EQ062192218	42.66	74.95	88	2.5	1.35	0.25	99.88	-15.8	167.79	150	A
KBKxxx_K	SKS	EQ062462257	42.66	74.95	81	9	1.6	0.6	99.65	-24.05	178.82	568.1	B
KBKxxx_K	SKS	EQ062721308	42.66	74.95	57	22.5	0.75	0.55	312.7	10.88	-61.76	53	B
KBKxxx_K	SKS	EQ070941100	42.66	74.95	83	8	1.5	0.35	103.1	-20.72	168.83	13	B
KBKxxx_K	SKS	EQ071151334	42.66	74.95	90	4.5	1.85	0.57	99.32	-14.29	166.86	55	B
KBKxxx_K	SKS	EQ072780717	42.66	74.95	83	3.5	1.45	0.23	100.3	-25.19	179.46	509.4	A
KBKxxx_K	SKS	EQ072892105	42.66	74.95	86	4	1.4	0.3	100.8	-25.78	179.53	509.3	A
KBKxxx_K	SKS	EQ073311149	42.66	74.95	81	20	1.15	0.5	99.92	-10.95	162.15	16	B
KBKxxx_K	SKS	EQ080151752	42.66	74.95	78	5.5	1.55	0.35	96.82	-21.98	-179.5	597.6	B
KBKxxx_K	SKS	EQ081551620	42.66	74.95	83	7.5	1.5	0.43	100.2	-10.51	161.27	84	B
KBKxxx_K	SKS	EQ082012239	42.66	74.95	81	10.5	1.1	0.43	91.39	-17.34	-177.3	391	B
KBKxxx_K	SKS	EQ082531222	42.66	74.95	86	13.5	1.45	0.55	101.3	-9.272	158.26	12	B

KBKxxx_KN	SKS	EQ083091835	42.66	74.95	81	15	1.3	0.5	100.48	-17.14	168.46	205.7	B
KBKxxx_KN	SKS	EQ092441733	42.66	74.95	57	5	1.45	0.2	93.72	-19.7	-177.8	577	B
KBKxxx_KN	SKS	EQ092812116	42.66	74.95	84	5	1.8	0.72	98.64	-12.91	166.31	35	B
KBKxxx_KN	SKS	EQ110521057	42.66	74.95	85	8.5	1.3	0.47	101.77	-26.14	178.39	558.1	A
KBKxxx_KN	SKS	EQ111081303	42.66	74.95	-87	5	1.5	0.35	108.68	-34.34	179.87	86	B
KBKxxx_KN	SKS	EQ111130416	42.66	74.95	81	5	1.3	0.28	100.13	-10.38	161.2	79	A
KBKxxx_KN	SKS	EQ111211612	42.66	74.95	65	15	1.2	0.42	101.23	-6.954	155.86	54.7	B
KBKxxx_KN	SKS	EQ921170741	42.66	74.95	72	6	1.25	0.18	14.84	40.43	-124.57	19.6	B
KBKxxx_KN	SKS	EQ921371458	42.66	74.95	76	12	1.45	0.42	101.64	-19.12	169.08	164.5	B
KBKxxx_KN	SKS	EQ921401442	42.66	74.95	80	7	1.5	0.38	100.72	-9.463	159.32	32.7	B
KBKxxx_KN	SKS	EQ951801224	42.66	74.95	88	6	1.75	0.75	101.84	-19.54	169.29	139.4	B
KBKxxx_KN	SKS	EQ960771448	42.66	74.95	87	3.5	1.55	0.4	99.36	-14.71	167.3	164.4	B
KBKxxx_KN	SKS	EQ960912341	42.66	74.95	79	9.5	1.3	0.43	97.78	-11.18	165.64	33	B
KBKxxx_KN	SKS	EQ981971156	42.66	74.95	89	11	1.55	0.8	97.34	-11.04	166.16	110.2	A
KBKxxx_KN	SKS	EQ990530100	42.66	74.95	68	7	1.4	0.25	103.12	-21.45	169.68	33	B
KHAxxx_XW	PKS	EQ972781804	44.21	74	-77	16	0.6	0.25	222.41	-59.74	-29.198	273.9	B
KHAxxx_XW	PKS	EQ973010615	44.21	74	75	2.5	0.85	0.07	318.39	-4.368	-76.681	112	A
KHAxxx_XW	PKS	EQ973322253	44.21	74	86	5.5	0.95	0.15	302.06	-13.74	-68.788	586	A
KHAxxx_XW	PKS	EQ980500421	44.21	74	-82	6	1.05	0.18	310.91	-10.97	-74.439	33	B
KHAxxx_XW	PKS	EQ980932201	44.21	74	90	15	0.9	0.25	312.86	-8.148	-74.238	164.6	B
KHAxxx_XW	PKS	EQ982461737	44.21	74	90	3	1.95	0.22	286.87	-29.45	-71.715	27	B
KHAxxx_XW	PKS	EQ991161817	44.21	74	89	8.5	0.55	0.12	321.37	-1.648	-77.783	172.6	A
KHAxxx_XW	PKS	EQ992151558	44.21	74	75	5.5	0.95	0.15	321.96	-3.453	-79.162	88.1	A
KHAxxx_XW	SKKS	EQ000081647	44.21	74	53	12	0.75	0.15	87.52	-16.93	-174.25	183.4	B
KHAxxx_XW	SKKS	EQ973322253	44.21	74	-77	6	1.25	0.33	302.06	-13.74	-68.788	586	B
KHAxxx_XW	SKKS	EQ980272105	44.21	74	34	13	0.95	0.25	96.75	-22.41	179.04	610.1	B
KHAxxx_XW	SKKS	EQ982810451	44.21	74	-76	2.5	1.3	0.17	302.78	-16.12	-71.404	136.2	A
KHAxxx_XW	SKKS	EQ990611745	44.21	74	88	11	0.8	0.2	292.51	-22.72	-68.503	110.8	B
KHAxxx_XW	SKKS	EQ990640033	44.21	74	-82	4	1.85	0.33	295.54	-20.42	-68.901	110.9	B
KHAxxx_XW	SKKS	EQ990991216	44.21	74	51	7.5	0.75	0.12	100.7	-26.35	178.22	621.2	B
KHAxxx_XW	SKKS	EQ991101904	44.21	74	50	4	1	0.1	104.18	-31.89	-179.04	95.7	A
KHAxxx_XW	SKKS	EQ991161817	44.21	74	-63	8	1.05	0.23	321.37	-1.648	-77.783	172.6	A
KHAxxx_XW	SKKS	EQ991591204	44.21	74	-71	13	1.05	0.32	313.52	15.04	-60.421	54.6	B
KHAxxx_XW	SKKS	EQ992580301	44.21	74	-87	5	0.9	0.18	293.26	-20.93	-67.275	218	A
KHAxxx_XW	SKKS	EQ992721801	44.21	74	58	17	0.5	0.18	285.13	-30.74	-71.993	33	B
KHAxxx_XW	SKKS	EQ993250351	44.21	74	90	18	0.8	0.35	293.93	-21.75	-68.78	101.2	B
KHAxxx_XW	SKS	EQ000081647	44.21	74	58	15	0.65	0.2	87.52	-16.93	-174.25	183.4	B
KHAxxx_XW	SKS	EQ000151249	44.21	74	32	12	0.75	0.2	94.6	-21.22	-179.26	632.8	B
KHAxxx_XW	SKS	EQ001091728	44.21	74	42	4.5	1	0.12	92.25	-20.66	-176.47	220.7	A
KHAxxx_XW	SKS	EQ972901502	44.21	74	60	11	0.95	0.28	94.05	-20.89	-178.84	578.9	B
KHAxxx_XW	SKS	EQ973191859	44.21	74	64	16	0.7	0.23	98.68	-15.15	167.38	123.1	B
KHAxxx_XW	SKS	EQ973322253	44.21	74	75	6.5	0.9	0.15	302.06	-13.74	-68.788	586	B
KHAxxx_XW	SKS	EQ973600534	44.21	74	55	13	0.95	0.3	95.85	-22.34	-179.69	588.4	B
KHAxxx_XW	SKS	EQ980100454	44.21	74	78	15	1.3	0.47	307.25	-12.03	-72.074	33	B

KHAxxx_XW	SKS	EQ980380320	44.21	74	51	8	0.95	0.18	98.45	-14.8	167.323	129.1	B
KHAxxx_XW	SKS	EQ982641209	44.21	74	49	11	0.85	0.2	97.9	-13.57	166.791	33	B
KHAxxx_XW	SKS	EQ983291805	44.21	74	44	10.5	0.9	0.2	99.34	-7.859	158.622	47.9	A
KHAxxx_XW	SKS	EQ983342058	44.21	74	63	14	0.8	0.28	103.1	-5.875	151.262	33	B
KHAxxx_XW	SKS	EQ983610038	44.21	74	45	11.5	0.6	0.1	93.03	-21.63	-176.38	144.3	A
KHAxxx_XW	SKS	EQ990372147	44.21	74	46	10	0.75	0.12	97.43	-12.85	166.697	90.1	A
KHAxxx_XW	SKS	EQ990652028	44.21	74	67	9	0.8	0.23	95.18	-21.73	-179.47	602.7	B
KHAxxx_XW	SKS	EQ990991216	44.21	74	63	14	0.6	0.17	100.7	-26.35	178.221	621.2	B
KHAxxx_XW	SKS	EQ991031038	44.21	74	49	4	0.7	0.08	92.91	-21.42	-176.46	164.2	A
KHAxxx_XW	SKS	EQ991101904	44.21	74	63	9.5	1.2	0.27	104.2	-31.89	-179.04	95.7	B
KHAxxx_XW	SKS	EQ991371007	44.21	74	47	22	0.9	0.47	101.4	-5.165	152.877	27	B
KHAxxx_XW	SKS	EQ991422256	44.21	74	45	12.5	1.25	0.3	101.9	-5.601	152.618	33	B
KHAxxx_XW	SKS	EQ991591204	44.21	74	80	16	0.65	0.18	313.5	15.04	-60.421	54.6	B
KHAxxx_XW	SKS	EQ991900504	44.21	74	52	11	0.95	0.17	100.9	-6.514	154.944	29	A
KHAxxx_XW	SKS	EQ992601454	44.21	74	45	5.5	0.9	0.13	97.76	-13.79	167.238	196.8	A
KHAxxx_XW	SKS	EQ992812213	44.21	74	41	5	0.9	0.12	93.49	-21.89	-176.72	183.8	B
KHAxxx_XW	SKS	EQ992960212	44.21	74	39	8.5	0.85	0.22	100.8	-4.808	153.414	83.3	A
KHAxxx_XW	SKS	EQ993631915	44.21	74	29	17	0.85	0.38	97.04	-10.98	165.251	33	B
KHAxxx_XW	SKS	EQ993632253	44.21	74	55	7	0.8	0.1	97.12	-11.17	165.33	33	A
KKARxx_KZ	PKS	EQ022852009	43.1	70.51	74	9.5	0.9	0.18	305.2	-8.295	-71.738	534.3	B
KKARxx_KZ	PKS	EQ041240436	43.1	70.51	-53	13	0.45	0.2	268.8	-37.7	-73.406	21	B
KKARxx_KZ	PKS	EQ051410511	43.1	70.51	79	11.5	0.9	0.3	319.4	-3.286	-80.987	39.5	B
KKARxx_KZ	PKS	EQ052071411	43.1	70.51	79	7.5	1.15	0.18	300.3	-15.35	-72.962	110.5	B
KKARxx_KZ	PKS	EQ052690155	43.1	70.51	56	6	1.5	0.38	312.4	-5.678	-76.398	115	B
KKARxx_KZ	PKS	EQ072300252	43.1	70.51	72	8.5	0.8	0.17	305.5	-13.81	-76.291	30	B
KKARxx_KZ	PKS	EQ072690443	43.1	70.51	87	5.5	0.9	0.15	316.9	-3.918	-79.208	99.8	B
KKARxx_KZ	PKS	EQ082392100	43.1	70.51	66	3.5	1.25	0.15	308.6	-7.641	-74.377	154	B
KKARxx_KZ	PKS	EQ101390415	43.1	70.51	72	6.5	1.1	0.2	314.1	-5.083	-77.541	132	B
KKARxx_KZ	PKS	EQ101432246	43.1	70.51	-79	12.5	0.85	0.25	303.2	-13.93	-74.352	101.4	B
KKARxx_KZ	PKS	EQ101441618	43.1	70.51	71	10	0.85	0.2	305.2	-8.087	-71.558	581.2	B
KKARxx_KZ	PKS	EQ120231604	43.1	70.51	-47	7.5	0.8	0.15	271.1	-36.41	-73.03	20	B
KKARxx_KZ	PKS	EQ131412302	43.1	70.51	79	10	0.9	0.2	301.1	-13.82	-72.398	88.4	B
KKARxx_KZ	PKS	EQ132240949	43.1	70.51	74	3	1.05	0.12	319.1	-5.396	-81.927	10	B
KKARxx_KZ	SKKS	EQ022900423	43.1	70.51	-81	1	1.45	0.22	91.08	-19.84	-178.4	627.6	B
KKARxx_KZ	SKKS	EQ030040515	43.1	70.51	-77	2	1.25	0.15	91.23	-20.57	-177.66	378	A
KKARxx_KZ	SKKS	EQ031391043	43.1	70.51	-79	3	1.2	0.23	89.69	-18.04	-178.67	563.8	B
KKARxx_KZ	SKKS	EQ032081141	43.1	70.51	64	11.5	0.85	0.18	287.5	-20.13	-65.185	345.3	B
KKARxx_KZ	SKKS	EQ040770321	43.1	70.51	54	17	0.95	0.6	286.8	-21.12	-65.586	289.8	B
KKARxx_KZ	SKKS	EQ051321115	43.1	70.51	86	12.5	0.95	0.25	137.7	-57.38	-139.23	10	B
KKARxx_KZ	SKKS	EQ052690155	43.1	70.51	70	12	1	0.43	312.4	-5.678	-76.398	115	B
KKARxx_KZ	SKKS	EQ053211926	43.1	70.51	77	10.5	0.75	0.2	287.5	-22.36	-67.895	147	B
KKARxx_KZ	SKKS	EQ053572147	43.1	70.51	73	17	0.85	0.62	316.6	-1.386	-77.517	192.9	B
KKARxx_KZ	SKKS	EQ060331248	43.1	70.51	-76	3.5	1.05	0.2	89.25	-17.75	-178.39	597.5	B
KKARxx_KZ	SKKS	EQ061971142	43.1	70.51	71	14	1.05	0.37	283.6	-28.72	-72.543	10	B
KKARxx_KZ	SKKS	EQ062370044	43.1	70.51	82	9.5	0.95	0.25	284.3	-24.4	-67.028	184	B

KKARxx_KZ	SKKS	EQ071451747	43.1	70.5	76	5.5	0.95	0.15	284.53	-24.22	-67.03	180.5	B
KKARxx_KZ	SKKS	EQ071930523	43.1	70.5	67	6	1.35	0.25	308.38	-7.933	-74.38	152.1	B
KKARxx_KZ	SKKS	EQ072021534	43.1	70.5	74	11	0.85	0.2	285.83	-22.15	-65.78	289.5	B
KKARxx_KZ	SKKS	EQ072730947	43.1	70.5	-83	5.5	1.3	0.2	128.65	-49.14	164.1	18	B
KKARxx_KZ	SKKS	EQ073331900	43.1	70.5	63	5.5	1.35	0.25	310.98	14.944	-61.27	156	B
KKARxx_KZ	SKKS	EQ081172334	43.1	70.5	-87	8	1.2	0.2	128.6	-49.09	164.1	10	B
KKARxx_KZ	SKKS	EQ082012239	43.1	70.5	-81	2.5	1.4	0.3	88.15	-17.34	-177.3	391	B
KKARxx_KZ	SKKS	EQ082321630	43.1	70.5	-59	17	0.7	0.33	83.49	-15.09	-173.5	8	B
KKARxx_KZ	SKKS	EQ082392100	43.1	70.5	56	7.5	1.4	0.4	308.61	-7.641	-74.38	154	B
KKARxx_KZ	SKKS	EQ091951838	43.1	70.5	77	3	1.1	0.1	287.41	-21.82	-67.09	175.6	B
KKARxx_KZ	SKKS	EQ093181944	43.1	70.5	67	9	0.8	0.15	285.68	-22.97	-66.64	220.4	A
KKARxx_KZ	SKKS	EQ100100027	43.1	70.5	-89	1	1.7	0.15	11.56	40.652	-124.7	29.3	B
KKARxx_KZ	SKKS	EQ100632239	43.1	70.5	81	12	0.95	0.27	288.11	-22.23	-68.33	114	B
KKARxx_KZ	SKKS	EQ100851452	43.1	70.5	80	3.5	1.45	0.17	283.11	-27.95	-70.82	42	B
KKARxx_KZ	SKKS	EQ101930011	43.1	70.5	74	9.5	1.25	0.25	288.1	-22.15	-68.22	115	B
KKARxx_KZ	SKKS	EQ102241154	43.1	70.5	85	8.5	0.55	0.1	316.44	-1.266	-77.31	206.7	A
KKARxx_KZ	SKKS	EQ102470852	43.1	70.5	-76	1	1.9	0.08	85.85	-17.37	-174	69	B
KKARxx_KZ	SKKS	EQ111590306	43.1	70.5	81	15	0.7	0.2	294.9	-17.08	-69.52	145.7	B
KKARxx_KZ	SKKS	EQ111711636	43.1	70.5	77	15	0.95	0.3	288.62	-21.7	-68.23	128	B
KKARxx_KZ	SKKS	EQ112270253	43.1	70.5	84	4	0.95	0.1	315.64	-1.814	-76.91	177.2	B
KKARxx_KZ	SKKS	EQ113261848	43.1	70.5	54	7.5	0.9	0.18	292.27	-15.36	-65.09	549.9	B
KKARxx_KZ	SKKS	EQ121191008	43.1	70.5	-82	3	1.4	0.38	87.52	-18.69	-174.7	134.7	B
KKARxx_KZ	SKKS	EQ130401416	43.1	70.5	-81	4.5	0.8	0.1	318.06	1.142	-77.4	145	A
KKARxx_KZ	SKKS	EQ133270748	43.1	70.5	-80	2	1.5	0.25	87.42	-17.11	-176.5	371	A
KKARxx_KZ	SKS	EQ021280526	43.1	70.5	-56	7	0.85	0.17	86.77	-17.95	-174.6	130.8	B
KKARxx_KZ	SKS	EQ021682126	43.1	70.5	-76	6	0.9	0.32	95.33	-12.59	166.4	33	B
KKARxx_KZ	SKS	EQ021800239	43.1	70.5	-69	14	0.45	0.15	95.09	-12.4	166.5	33	B
KKARxx_KZ	SKS	EQ021812129	43.1	70.5	-62	21	0.5	0.2	94.72	-22.2	179.3	620.4	B
KKARxx_KZ	SKS	EQ022311101	43.1	70.5	-64	6	0.65	0.12	93.46	-21.7	-179.5	580	B
KKARxx_KZ	SKS	EQ022311108	43.1	70.5	-60	7.5	0.55	0.17	96.71	-23.88	178.5	675.4	A
KKARxx_KZ	SKS	EQ022500814	43.1	70.5	-70	2.5	0.85	0.1	89.86	-20.28	-176	209.9	A
KKARxx_KZ	SKS	EQ022511315	43.1	70.5	-63	10	0.75	0.2	95.49	-22.84	178.9	618.8	B
KKARxx_KZ	SKS	EQ022900423	43.1	70.5	-71	6	0.65	0.15	91.08	-19.84	-178.4	627.6	A
KKARxx_KZ	SKS	EQ022951139	43.1	70.5	-74	9	0.85	0.28	91.77	-20.63	-178.4	549	A
KKARxx_KZ	SKS	EQ031340603	43.1	70.5	56	15	1.1	0.4	310.82	18.266	-58.63	41.5	B
KKARxx_KZ	SKS	EQ031391043	43.1	70.5	-69	6	1.05	0.3	89.69	-18.04	-178.7	563.8	B
KKARxx_KZ	SKS	EQ032080204	43.1	70.5	-70	4.5	0.75	0.12	90.96	-21.08	-176.6	212.9	A
KKARxx_KZ	SKS	EQ032451828	43.1	70.5	-68	15	0.8	0.33	83.43	-15.23	-173.2	10	B
KKARxx_KZ	SKS	EQ040251143	43.1	70.5	-70	4	0.8	0.1	85.52	-16.83	-174.2	129.8	A
KKARxx_KZ	SKS	EQ040722213	43.1	70.5	-60	13	0.7	0.23	85.08	-15.58	-175.1	271.5	B
KKARxx_KZ	SKS	EQ040962034	43.1	70.5	-67	4.5	1.1	0.18	88.57	-20.44	-173.9	8	B
KKARxx_KZ	SKS	EQ041200057	43.1	70.5	-86	3.5	1.6	0.2	332.42	10.805	-86	10	B
KKARxx_KZ	SKS	EQ041810701	43.1	70.5	81	9.5	1.2	0.4	333.54	10.738	-87.04	9	B
KKARxx_KZ	SKS	EQ051401240	43.1	70.5	-70	2.5	0.8	0.15	97.08	-24.53	178.8	565.3	A
KKARxx_KZ	SKS	EQ051660250	43.1	70.5	86	3.5	1.6	0.28	12.37	41.292	-126	16	B

KKARxx_KZ	SKS	EQ052590031	43.1	70.51	-62	10	0.3	0.08	98.8	-5.622	153.592	10.7	A
KKARxx_KZ	SKS	EQ060022213	43.1	70.51	-73	8	0.65	0.2	91	-19.93	-178.18	582.9	B
KKARxx_KZ	SKS	EQ060570308	43.1	70.51	-66	8	0.55	0.15	95.5	-23.61	-179.99	535.2	A
KKARxx_KZ	SKS	EQ061530731	43.1	70.51	-71	2.5	1.25	0.15	92.16	-20.84	-178.7	591.6	B
KKARxx_KZ	SKS	EQ061780259	43.1	70.51	-66	13.5	0.75	0.28	91.02	-19.87	-178.29	569.9	B
KKARxx_KZ	SKS	EQ061781303	43.1	70.51	-78	11	0.95	0.22	342.7	14.99	-94.14	9	B
KKARxx_KZ	SKS	EQ061991602	43.1	70.51	-63	10.5	0.8	0.25	91.31	-20.08	-178.43	587.2	B
KKARxx_KZ	SKS	EQ062192218	43.1	70.51	-67	2	0.55	0.08	96.87	-15.8	167.789	150	A
KKARxx_KZ	SKS	EQ071262111	43.1	70.51	-64	5.5	0.75	0.15	91.33	-19.4	-179.35	676.4	A
KKARxx_KZ	SKS	EQ071960927	43.1	70.51	-54	18	0.35	0.18	96.02	-15.38	168.597	8	B
KKARxx_KZ	SKS	EQ072381237	43.1	70.51	-64	5.5	0.9	0.12	86.17	-17.46	-174.34	127.4	A
KKARxx_KZ	SKS	EQ072780717	43.1	70.51	-66	8.5	0.65	0.18	97.3	-25.19	179.459	509.4	A
KKARxx_KZ	SKS	EQ072892105	43.1	70.51	-49	7	0.4	0.05	97.8	-25.78	179.53	509.3	A
KKARxx_KZ	SKS	EQ073200313	43.1	70.51	77	6	1.5	0.22	316.4	-2.312	-77.838	122.9	B
KKARxx_KZ	SKS	EQ073331900	43.1	70.51	54	2	1.35	0.2	311	14.94	-61.274	156	B
KKARxx_KZ	SKS	EQ073430728	43.1	70.51	-74	6	1.1	0.35	96.16	-26	-177.51	152.5	B
KKARxx_KZ	SKS	EQ080721123	43.1	70.51	-56	21.5	0.35	0.23	97.77	-16.57	167.335	13	B
KKARxx_KZ	SKS	EQ081060303	43.1	70.51	-86	9	1.2	0.32	338.5	13.56	-90.599	33	B
KKARxx_KZ	SKS	EQ081850302	43.1	70.51	-49	14	0.5	0.12	95.14	-23.37	-179.78	581.2	B
KKARxx_KZ	SKS	EQ082012239	43.1	70.51	-67	7.5	0.75	0.18	88.15	-17.34	-177.31	391	A
KKARxx_KZ	SKS	EQ082321630	43.1	70.51	-73	10	1.25	0.35	83.49	-15.09	-173.48	8	A
KKARxx_KZ	SKS	EQ091081749	43.1	70.51	-67	8.5	0.65	0.2	91.81	-20.61	-178.48	566.1	B
KKARxx_KZ	SKS	EQ091930612	43.1	70.51	-88	7.5	1.4	0.35	297.9	-15.04	-70.445	198.9	B
KKARxx_KZ	SKS	EQ092112005	43.1	70.51	-67	4.5	1.1	0.18	89.17	-20.85	-174.26	14	B
KKARxx_KZ	SKS	EQ092170831	43.1	70.51	-71	1.5	1.4	0.15	124.1	-45.55	166.356	10	B
KKARxx_KZ	SKS	EQ092812116	43.1	70.51	-61	20	0.4	0.23	95.62	-12.91	166.314	35	B
KKARxx_KZ	SKS	EQ093260748	43.1	70.51	-77	14	0.7	0.25	89.31	-17.79	-178.43	522.6	B
KKARxx_KZ	SKS	EQ093281247	43.1	70.51	-69	14	0.7	0.28	88.88	-20.71	-174.04	18	B
KKARxx_KZ	SKS	EQ101001654	43.1	70.51	-61	14	0.6	0.18	89.84	-20.11	-176.22	273.2	B
KKARxx_KZ	SKS	EQ102222318	43.1	70.51	-61	9.5	0.45	0.12	96.13	-14.46	167.345	191.6	A
KKARxx_KZ	SKS	EQ102470852	43.1	70.51	-76	3	0.75	0.1	85.85	-17.37	-174	69	A
KKARxx_KZ	SKS	EQ110231915	43.1	70.51	-54	12	0.55	0.15	90.09	-20.34	-176.29	236.1	B
KKARxx_KZ	SKS	EQ110521057	43.1	70.51	-63	10	0.55	0.15	98.84	-26.14	178.394	558.1	A
KKARxx_KZ	SKS	EQ110931407	43.1	70.51	-66	7.5	0.7	0.15	89.29	-17.64	-178.59	551.7	B
KKARxx_KZ	SKS	EQ111130416	43.1	70.51	-64	6.5	0.5	0.1	97.13	-10.38	161.2	79	A
KKARxx_KZ	SKS	EQ111241613	43.1	70.51	-65	5	1.05	0.18	91.67	-20.4	-178.55	583.6	A
KKARxx_KZ	SKS	EQ112030656	43.1	70.51	-74	10	0.8	0.28	91.64	-20.33	-178.6	612.1	B
KKARxx_KZ	SKS	EQ112351751	43.1	70.51	82	8	1	0.28	335.5	37.91	-77.936	6	B
KKARxx_KZ	SKS	EQ112440614	43.1	70.51	-66	14.5	0.6	0.22	94.97	-12.36	166.657	39	B
KKARxx_KZ	SKS	EQ112480952	43.1	70.51	-75	3	1.4	0.18	83.78	-15.3	-173.62	37	B
KKARxx_KZ	SKS	EQ112521941	43.1	70.51	83	1.5	1.6	0.12	11.26	49.54	-126.89	22	B
KKARxx_KZ	SKS	EQ112581931	43.1	70.51	-70	2.5	0.85	0.1	93.4	-21.61	-179.53	644.6	B
KKARxx_KZ	SKS	EQ121191008	43.1	70.51	-70	3	1	0.1	87.52	-18.69	-174.71	134.7	A
KKARxx_KZ	SKS	EQ121590901	43.1	70.51	-72	5.5	0.8	0.17	89.99	-20.19	-176.34	266	B
KKARxx_KZ	SKS	EQ121880228	43.1	70.51	-64	9.5	0.5	0.12	96.28	-14.66	167.34	160.1	A

KKARxx_KZ	SKS	EQ122181355	43.1	70.51	-68	4.5	1.35	0.25	92.21	-21.2	-178.358	484.3	B
KKARxx_KZ	SKS	EQ122980045	43.1	70.51	80	6.5	1.25	0.33	331.4	10.1	-85.298	17	B
KKARxx_KZ	SKS	EQ123491036	43.1	70.51	-88	4.5	1.4	0.3	8.94	31.2	-119.56	11.3	B
KKARxx_KZ	SKS	EQ130381859	43.1	70.51	-72	5.5	0.65	0.2	94.61	-11	165.658	10	B
KKARxx_KZ	SKS	EQ131431719	43.1	70.51	-66	1.5	0.7	0.05	93.09	-23	-177.109	171.4	A
KKARxx_KZ	SKS	EQ131432107	43.1	70.51	-66	4	0.75	0.08	89.94	-20.6	-175.765	149.1	A
KKARxx_KZ	SKS	EQ132050332	43.1	70.51	-68	2	0.8	0.08	93.16	-23.1	-177.157	166.9	B
KKARxx_KZ	SKS	EQ133270748	43.1	70.51	-68	14	0.85	0.28	87.42	-17.1	-176.542	371	B
KNDCxx_KZ	SKKS	EQ060570308	43.2	76.97	84	2.5	1.95	0.25	99.52	-23.6	-179.989	535.2	B
KNDCxx_KZ	SKKS	EQ062231430	43.2	76.97	39	13.5	0.8	0.2	357.9	18.5	-101.048	56	B
KNDCxx_KZ	SKKS	EQ071870109	43.2	76.97	35	10	0.8	0.17	350	16.4	-93.99	113	B
KNDCxx_KZ	SKKS	EQ072021534	43.2	76.97	87	6	0.95	0.2	292.2	-22.2	-65.777	289.5	A
KNDCxx_KZ	SKKS	EQ072780717	43.2	76.97	68	11	0.9	0.25	101.2	-25.2	179.459	509.4	A
KNDCxx_KZ	SKKS	EQ072892105	43.2	76.97	47	9	0.6	0.1	101.7	-25.8	179.53	509.3	B
KNDCxx_KZ	SKKS	EQ080431250	43.2	76.97	58	7	1.7	0.45	350.3	16.4	-94.304	83	B
KNDCxx_KZ	SKKS	EQ110521057	43.2	76.97	74	9.5	1.15	0.27	102.7	-26.1	178.394	558.1	B
KNDCxx_KZ	SKKS	EQ111081303	43.2	76.97	80	11	1.5	0.38	109.4	-34.3	179.874	86	B
KNDCxx_KZ	SKKS	EQ111901354	43.2	76.97	78	8	1.15	0.27	103	-29.4	-177.12	19	B
KNDCxx_KZ	SKKS	EQ112100742	43.2	76.97	85	3.5	2.15	0.35	99.83	-23.8	179.76	523	B
KNDCxx_KZ	SKKS	EQ113261848	43.2	76.97	-85	11	0.7	0.18	298.8	-15.4	-65.09	549.9	B
KNDCxx_KZ	SKKS	EQ121490507	43.2	76.97	89	1.5	1.75	0.23	282	-28	-63.094	586.9	B
KNDCxx_KZ	SKKS	EQ121690343	43.2	76.97	89	2	1.85	0.38	100.7	-8.51	160.356	50.8	B
KNDCxx_KZ	SKS	EQ060570308	43.2	76.97	70	6.5	0.7	0.12	99.52	-23.6	-179.989	535.2	A
KNDCxx_KZ	SKS	EQ060660628	43.2	76.97	84	2.5	1.4	0.2	100.6	-14.8	167.368	136.2	B
KNDCxx_KZ	SKS	EQ061530731	43.2	76.97	73	4.5	0.85	0.15	96.33	-20.8	-178.701	591.6	A
KNDCxx_KZ	SKS	EQ062192218	43.2	76.97	82	2.5	0.7	0.1	101.1	-15.8	167.789	150	B
KNDCxx_KZ	SKS	EQ062761803	43.2	76.97	88	6.5	1.1	0.35	102.6	-18.8	169.001	161	B
KNDCxx_KZ	SKS	EQ062950855	43.2	76.97	54	6	1.75	0.35	166.8	-45.7	95.987	10	A
KNDCxx_KZ	SKS	EQ070940634	43.2	76.97	80	12	1.3	0.55	102.8	-7.76	156.49	17	B
KNDCxx_KZ	SKS	EQ071151334	43.2	76.97	79	7	1.15	0.25	100.6	-14.3	166.863	55	A
KNDCxx_KZ	SKS	EQ071262111	43.2	76.97	81	3	1.25	0.28	95.55	-19.4	-179.354	676.4	B
KNDCxx_KZ	SKS	EQ071870109	43.2	76.97	50	12	1.1	0.3	350	16.4	-93.99	113	B
KNDCxx_KZ	SKS	EQ071960927	43.2	76.97	82	5	0.9	0.22	100.2	-15.4	168.597	8	B
KNDCxx_KZ	SKS	EQ072280839	43.2	76.97	84	11.5	1.5	0.6	102.2	-9.83	159.465	15	B
KNDCxx_KZ	SKS	EQ072780717	43.2	76.97	67	12.5	0.8	0.25	101.2	-25.2	179.459	509.4	A
KNDCxx_KZ	SKS	EQ072892105	43.2	76.97	74	16	0.65	0.2	101.7	-25.8	179.53	509.3	B
KNDCxx_KZ	SKS	EQ080431250	43.2	76.97	54	10.5	1	0.28	350.3	16.4	-94.304	83	A
KNDCxx_KZ	SKS	EQ080721123	43.2	76.97	83	8	1.25	0.48	102	-16.6	167.335	13	B
KNDCxx_KZ	SKS	EQ081001246	43.2	76.97	83	12	1.4	0.63	103.6	-20.1	168.892	33	B
KNDCxx_KZ	SKS	EQ081551620	43.2	76.97	84	4.5	1.65	0.37	101.5	-10.5	161.273	84	B
KNDCxx_KZ	SKS	EQ082010927	43.2	76.97	90	10	1.4	0.8	99.72	-11	164.493	11	B
KNDCxx_KZ	SKS	EQ082012239	43.2	76.97	66	5.5	0.85	0.15	92.49	-17.3	-177.312	391	A
KNDCxx_KZ	SKS	EQ082450400	43.2	76.97	52	9	0.75	0.15	99.62	-25.4	-177.636	171.1	B
KNDCxx_KZ	SKS	EQ082531222	43.2	76.97	87	11	1.4	0.65	102.7	-9.27	158.261	12	B
KNDCxx_KZ	SKS	EQ083091835	43.2	76.97	83	9	1.3	0.62	101.7	-17.1	168.458	205.7	B

KNDCxx_KZ	SKS	EQ092170831	43.2	76.97	-67	8	1.15	0.38	126.8	-45.55	166.36	10	B
KNDCxx_KZ	SKS	EQ092810828	43.2	76.97	82	7.5	1.65	0.53	100.4	-13.3	165.91	35	B
KNDCxx_KZ	SKS	EQ092812116	43.2	76.97	82	5	1.4	0.38	99.89	-12.91	166.31	35	A
KNDCxx_KZ	SKS	EQ093260748	43.2	76.97	71	10	0.65	0.22	93.61	-17.79	-178.4	522.6	A
KNDCxx_KZ	SKS	EQ101010940	43.2	76.97	77	10.5	1.45	0.47	101.9	-10.88	161.12	21	B
KNDCxx_KZ	SKS	EQ102222318	43.2	76.97	77	5.5	1	0.2	100.4	-14.46	167.35	191.6	A
KNDCxx_KZ	SKS	EQ110521057	43.2	76.97	81	11	0.95	0.35	102.7	-26.14	178.39	558.1	B
KNDCxx_KZ	SKS	EQ110931407	43.2	76.97	72	3	0.85	0.1	93.59	-17.64	-178.6	551.7	A
KNDCxx_KZ	SKS	EQ111081303	43.2	76.97	-85	10.5	1.2	0.55	109.4	-34.34	179.87	86	B
KNDCxx_KZ	SKS	EQ111130416	43.2	76.97	88	3	1.35	0.28	101.5	-10.38	161.2	79	B
KNDCxx_KZ	SKS	EQ112030656	43.2	76.97	75	10	0.85	0.28	95.83	-20.33	-178.6	612.1	B
KNDCxx_KZ	SKS	EQ112100742	43.2	76.97	81	10.5	1.15	0.35	99.83	-23.78	179.76	523	A
KNDCxx_KZ	SKS	EQ112581931	43.2	76.97	77	4	1.15	0.23	97.52	-21.61	-179.5	644.6	B
KNDCxx_KZ	SKS	EQ120090407	43.2	76.97	85	1.5	0.8	0.1	98.96	-10.62	165.16	28	B
KNDCxx_KZ	SKS	EQ120240052	43.2	76.97	-89	2	1.2	0.2	101.6	-24.98	178.52	580.3	B
KNDCxx_KZ	SKS	EQ121880228	43.2	76.97	81	4.5	1.2	0.25	100.5	-14.66	167.34	160.1	A
KNDCxx_KZ	SKS	EQ122071120	43.2	76.97	81	7	1.8	0.52	102	-9.694	159.73	20	B
KZAxxx_KN	PKS	EQ011031533	42.1	75.25	-79	15	0.8	0.28	220.7	-59.72	-25.59	26	B
KZAxxx_KN	PKS	EQ022852009	42.1	75.25	73	10.5	0.8	0.23	309.7	-8.295	-71.74	534.3	B
KZAxxx_KN	PKS	EQ023160146	42.1	75.25	-85	18	0.75	0.28	225.1	-56.55	-27.54	120	B
KZAxxx_KN	PKS	EQ042501242	42.1	75.25	86	8	0.75	0.12	226.9	-55.37	-28.98	10	B
KZAxxx_KN	PKS	EQ051011454	42.1	75.25	79	6	1.25	0.23	318	-7.293	-77.89	129.9	B
KZAxxx_KN	PKS	EQ080411222	42.1	75.25	-86	2.5	0.9	0.08	219.4	-60.8	-25.59	8	A
KZAxxx_KN	PKS	EQ090591433	42.1	75.25	-89	17.5	0.65	0.27	219.6	-60.53	-24.8	15	B
KZAxxx_KN	PKS	EQ091061457	42.1	75.25	-84	4.5	1	0.13	220.3	-60.2	-26.86	20	B
KZAxxx_KN	PKS	EQ101441618	42.1	75.25	77	3	0.75	0.08	309.7	-8.087	-71.56	581.2	A
KZAxxx_KN	PKS	EQ951220606	42.1	75.25	-88	15.5	0.75	0.33	319.2	-3.792	-76.92	97	B
KZAxxx_KN	PKS	EQ952300216	42.1	75.25	-65	9	0.95	0.3	226.2	-55.93	-28.83	41.9	B
KZAxxx_KN	PKS	EQ952662231	42.1	75.25	85	5.5	1.6	0.2	316.2	-10.68	-78.58	59.9	B
KZAxxx_KN	PKS	EQ960882303	42.1	75.25	85	12.5	0.9	0.28	323.2	-1.036	-78.74	33	B
KZAxxx_KN	PKS	EQ961510304	42.1	75.25	90	13.5	0.65	0.18	224.6	-56.72	-26.31	84	B
KZAxxx_KN	SKKS	EQ001660215	42.1	75.25	51	4.5	0.8	0.08	101.9	-25.52	178.05	604.6	A
KZAxxx_KN	SKKS	EQ002221141	42.1	75.25	15	8.5	1.15	0.35	357.5	18.2	-102.5	45.8	B
KZAxxx_KN	SKKS	EQ002280430	42.1	75.25	63	3	0.9	0.05	106.5	-31.51	179.73	357.7	A
KZAxxx_KN	SKKS	EQ011180449	42.1	75.25	21	11.5	1.1	0.52	92.22	-18.06	-176.9	351.8	B
KZAxxx_KN	SKKS	EQ031560823	42.1	75.25	63	6	0.9	0.15	104.8	-30.62	-178.8	115.2	B
KZAxxx_KN	SKKS	EQ042820827	42.1	75.25	55	8	0.9	0.15	100.2	-10.95	162.16	36	A
KZAxxx_KN	SKKS	EQ043282104	42.1	75.25	47	3.5	0.8	0.08	100.2	-24.29	178.99	532.3	A
KZAxxx_KN	SKKS	EQ050781734	42.1	75.25	27	6.5	0.95	0.25	97.21	-21.89	-179.5	598.7	A
KZAxxx_KN	SKKS	EQ050801223	42.1	75.25	86	9.5	1.55	0.52	283.4	-24.98	-63.47	579.1	B
KZAxxx_KN	SKKS	EQ051401240	42.1	75.25	52	6	0.6	0.1	100.5	-24.53	178.84	565.3	A
KZAxxx_KN	SKKS	EQ051631926	42.1	75.25	-76	11.5	1	0.28	225.3	-56.29	-27.08	94.1	B
KZAxxx_KN	SKKS	EQ053211926	42.1	75.25	-81	1.5	1.8	0.2	291	-22.36	-67.9	147	A
KZAxxx_KN	SKKS	EQ060570308	42.1	75.25	53	11.5	0.55	0.12	98.99	-23.61	-180	535.2	A
KZAxxx_KN	SKKS	EQ060660628	42.1	75.25	39	4.5	0.85	0.12	99.7	-14.81	167.37	136.2	A

KZAxxx_KN	SKKS	EQ062370044	42.08	75.3	-82	2.5	2.05	0.3	287.48	-24.4	-67.028	184	B
KZAxxx_KN	SKKS	EQ062462257	42.08	75.3	47	11.5	0.8	0.23	100.11	-24.05	178.817	568.1	B
KZAxxx_KN	SKKS	EQ070921202	42.08	75.3	45	18.5	1	0.5	101.51	-8.706	157.62	14	B
KZAxxx_KN	SKKS	EQ072710044	42.08	75.3	39	8.5	1.8	0.47	103.6	-21.28	169.26	10	B
KZAxxx_KN	SKKS	EQ073430728	42.08	75.3	43	12.5	0.7	0.17	99.67	-26	-177.51	152.5	B
KZAxxx_KN	SKKS	EQ073540755	42.08	75.3	57	11.5	1.15	0.33	114.71	-39.01	178.291	20	B
KZAxxx_KN	SKKS	EQ081050945	42.08	75.3	85	8.5	1.15	0.25	225.88	-56.02	-28.035	140.2	B
KZAxxx_KN	SKKS	EQ081172334	42.08	75.3	58	2.5	2.05	0.25	130.92	-49.09	164.117	10	B
KZAxxx_KN	SKKS	EQ082012239	42.08	75.3	28	13	0.7	0.28	91.85	-17.34	-177.31	391	B
KZAxxx_KN	SKKS	EQ082392100	42.08	75.3	-56	6.5	1.6	0.55	313.32	-7.641	-74.377	154	B
KZAxxx_KN	SKKS	EQ082481609	42.08	75.3	62	13	0.85	0.25	105.18	-31.56	-177.81	26.1	B
KZAxxx_KN	SKKS	EQ091210603	42.08	75.3	67	8	1.2	0.27	99.99	-10.77	162.219	21	B
KZAxxx_KN	SKKS	EQ092302120	42.08	75.3	57	6.5	0.7	0.13	100.26	-26.06	-178.39	269.8	B
KZAxxx_KN	SKKS	EQ092451800	42.08	75.3	57	6	0.65	0.1	103.72	-29.4	-178.96	257	A
KZAxxx_KN	SKKS	EQ092850937	42.08	75.3	53	12	0.6	0.15	98.43	-12.41	166.498	42	A
KZAxxx_KN	SKKS	EQ093181944	42.08	75.3	-83	4	2.25	0.5	288.96	-22.97	-66.641	220.4	B
KZAxxx_KN	SKKS	EQ093260748	42.08	75.3	32	12	0.7	0.23	92.96	-17.79	-178.43	522.6	B
KZAxxx_KN	SKKS	EQ100252252	42.08	75.3	-60	6.5	1.65	0.48	312.75	-8.498	-74.466	146.7	B
KZAxxx_KN	SKKS	EQ101351518	42.08	75.3	25	5	1.6	0.35	96.92	-23.59	-176.65	79.8	B
KZAxxx_KN	SKKS	EQ101441618	42.08	75.3	-70	4.5	1.5	0.28	309.65	-8.087	-71.558	581.2	B
KZAxxx_KN	SKKS	EQ103620834	42.08	75.3	53	6.5	0.85	0.12	98.7	-23.41	-179.8	551	A
KZAxxx_KN	SKKS	EQ110521057	42.08	75.3	50	4.5	0.7	0.1	102.23	-26.14	178.394	558.1	A
KZAxxx_KN	SKKS	EQ110931407	42.08	75.3	60	16.5	0.55	0.22	92.94	-17.64	-178.59	551.7	B
KZAxxx_KN	SKKS	EQ111081303	42.08	75.3	57	7.5	1.05	0.18	109.18	-34.34	179.874	86	A
KZAxxx_KN	SKKS	EQ111590306	42.08	75.3	-76	6.5	1.2	0.33	298.88	-17.08	-69.518	145.7	B
KZAxxx_KN	SKKS	EQ111711636	42.08	75.3	-81	3	2.3	0.43	292.15	-21.7	-68.228	128	B
KZAxxx_KN	SKKS	EQ943460741	42.08	75.3	-74	3	1.8	0.33	298.54	-17.48	-69.598	148.2	B
KZAxxx_KN	SKKS	EQ943611732	42.08	75.3	55	7.5	0.95	0.18	106.85	-31.97	179.86	212.4	B
KZAxxx_KN	SKKS	EQ952091429	42.08	75.3	34	15.5	0.8	0.3	93.96	-21.18	-175.39	92.4	B
KZAxxx_KN	SKKS	EQ952281504	42.08	75.3	57	2	0.9	0.05	107.1	-31.95	179.362	463	A
KZAxxx_KN	SKKS	EQ952662231	42.08	75.3	86	20	0.5	0.33	316.19	-10.68	-78.581	59.9	B
KZAxxx_KN	SKKS	EQ952821343	42.08	75.3	41	6.5	1.05	0.2	103.19	-21.47	170.176	104.8	A
KZAxxx_KN	SKKS	EQ960821731	42.08	75.3	58	9	0.75	0.15	109.63	-35.24	-179.21	33	B
KZAxxx_KN	SKKS	EQ981901445	42.08	75.3	53	5.5	0.85	0.15	104.79	-30.49	-178.99	129.5	A
KZAxxx_KN	SKKS	EQ990530100	42.08	75.3	63	12	1.1	0.35	103.48	-21.45	169.682	33	A
KZAxxx_KN	SKKS	EQ990991216	42.08	75.3	54	13.5	0.55	0.12	102.52	-26.35	178.221	621.2	A
KZAxxx_KN	SKKS	EQ991101904	42.08	75.3	56	8	0.75	0.12	106.18	-31.89	-179.04	95.7	B
KZAxxx_KN	SKKS	EQ991161817	42.08	75.3	-83	12	0.65	0.15	321.68	-1.648	-77.783	172.6	B
KZAxxx_KN	SKKS	EQ992401240	42.08	75.3	-54	3.5	1.3	0.23	321.62	-1.287	-77.549	196.4	A
KZAxxx_KN	SKS	EQ001252036	42.08	75.3	39	15.5	0.6	0.22	93.13	-17.91	-178.52	515.8	B
KZAxxx_KN	SKS	EQ001660215	42.08	75.3	42	13	0.65	0.22	101.88	-25.52	178.046	604.6	B
KZAxxx_KN	SKS	EQ002280430	42.08	75.3	61	6.5	0.9	0.13	106.48	-31.51	179.725	357.7	A
KZAxxx_KN	SKS	EQ003530119	42.08	75.3	39	8	0.8	0.12	96.32	-21.18	-179.12	628.2	A
KZAxxx_KN	SKS	EQ003560241	42.08	75.3	44	8.5	0.7	0.18	101.41	-5.354	154.133	386.7	B
KZAxxx_KN	SKS	EQ010091649	42.08	75.3	53	4.5	0.7	0.07	99.92	-14.93	167.17	103	A

KZAxxx_KN	SKS	EQ011291738	42.08	75.25	49	14	0.8	0.3	100.3	-10.32	161.232	67.9	A
KZAxxx_KN	SKS	EQ011461057	42.08	75.25	38	13	0.95	0.4	94.73	-20.29	-177.84	406.5	B
KZAxxx_KN	SKS	EQ012221624	42.08	75.25	56	12	0.7	0.2	99.78	-14.7	167.106	82	A
KZAxxx_KN	SKS	EQ012550848	42.08	75.25	67	11	0.75	0.2	96.15	-20.99	-179.11	608.1	B
KZAxxx_KN	SKS	EQ012731901	42.08	75.25	61	17	0.55	0.3	102	-18.42	168.121	33	B
KZAxxx_KN	SKS	EQ012992305	42.08	75.25	56	8.5	1.05	0.2	102.1	-18.49	168.108	33	B
KZAxxx_KN	SKS	EQ013360247	42.08	75.25	48	11	0.55	0.1	98.57	-12.74	166.664	100.5	A
KZAxxx_KN	SKS	EQ013461253	42.08	75.25	69	9.5	0.8	0.2	101.3	-17.19	167.721	33	B
KZAxxx_KN	SKS	EQ013572252	42.08	75.25	53	8	0.75	0.1	100.9	-9.613	159.53	16	A
KZAxxx_KN	SKS	EQ013611054	42.08	75.25	46	12	0.65	0.2	99.64	-14.65	167.262	153.2	A
KZAxxx_KN	SKS	EQ020021722	42.08	75.25	56	14	0.6	0.2	101.6	-17.6	167.856	21	B
KZAxxx_KN	SKS	EQ020311627	42.08	75.25	51	13	0.5	0.2	96.76	-12.8	169.531	667.1	B
KZAxxx_KN	SKS	EQ021682126	42.08	75.25	51	13	0.6	0.2	98.64	-12.59	166.383	33	A
KZAxxx_KN	SKS	EQ021800239	42.08	75.25	52	11	0.6	0.2	98.41	-12.4	166.524	33	A
KZAxxx_KN	SKS	EQ022500814	42.08	75.25	44	12	0.7	0.2	93.56	-20.28	-176.04	209.9	A
KZAxxx_KN	SKS	EQ022951139	42.08	75.25	43	9.5	0.85	0.2	95.38	-20.63	-178.39	549	A
KZAxxx_KN	SKS	EQ030952203	42.08	75.25	50	9	0.6	0.1	100.4	-16.18	167.889	177.5	B
KZAxxx_KN	SKS	EQ031292026	42.08	75.25	-85	6	1.25	0.2	207.4	-48.21	32.272	10	B
KZAxxx_KN	SKS	EQ031332121	42.08	75.25	52	8	0.85	0.1	101.4	-17.29	167.744	33	B
KZAxxx_KN	SKS	EQ031340603	42.08	75.25	78	6.5	1	0.2	314.4	18.27	-58.633	41.5	B
KZAxxx_KN	SKS	EQ031651828	42.08	75.25	51	5	0.8	0.1	101.3	-7.583	156.782	405.8	A
KZAxxx_KN	SKS	EQ032030421	42.08	75.25	42	11	0.8	0.2	101	-15.42	166.142	33	B
KZAxxx_KN	SKS	EQ032080204	42.08	75.25	61	15	0.6	0.2	94.63	-21.08	-176.59	212.9	B
KZAxxx_KN	SKS	EQ032331212	42.08	75.25	59	9.5	1.55	0.7	125.8	-45.1	167.144	28	B
KZAxxx_KN	SKS	EQ032420005	42.08	75.25	45	15	0.65	0.2	99.77	-14.8	167.238	137	A
KZAxxx_KN	SKS	EQ040251143	42.08	75.25	46	7.5	0.7	0.1	89.34	-16.83	-174.2	129.8	A
KZAxxx_KN	SKS	EQ040510558	42.08	75.25	54	12	0.5	0.1	97.85	-11.61	166.45	84	A
KZAxxx_KN	SKS	EQ041001523	42.08	75.25	41	15	0.6	0.2	98.56	-13.17	167.198	228.4	B
KZAxxx_KN	SKS	EQ041740904	42.08	75.25	43	14	0.5	0.2	97.45	-10.9	166.259	152.8	B
KZAxxx_KN	SKS	EQ042101023	42.08	75.25	47	6	0.85	0.1	100.3	-10.31	161.168	56.1	A
KZAxxx_KN	SKS	EQ050391448	42.08	75.25	51	5	0.65	0.1	99.34	-14.25	167.259	206.3	A
KZAxxx_KN	SKS	EQ050781734	42.08	75.25	48	10	0.75	0.2	97.21	-21.89	-179.55	598.7	B
KZAxxx_KN	SKS	EQ051401240	42.08	75.25	55	9	0.8	0.2	100.5	-24.53	178.84	565.3	B
KZAxxx_KN	SKS	EQ052590031	42.08	75.25	50	5.5	0.75	0.1	102	-5.622	153.592	10.7	A
KZAxxx_KN	SKS	EQ060230602	42.08	75.25	65	10	0.85	0.2	101.5	-17.39	167.715	23	B
KZAxxx_KN	SKS	EQ060570308	42.08	75.25	54	5	0.75	0.1	98.99	-23.61	-179.99	535.2	A
KZAxxx_KN	SKS	EQ060660628	42.08	75.25	44	5.5	0.85	0.1	99.7	-14.81	167.368	136.2	A
KZAxxx_KN	SKS	EQ062192218	42.08	75.25	51	3.5	0.7	0.1	100.2	-15.8	167.789	150	A
KZAxxx_KN	SKS	EQ062721308	42.08	75.25	-79	5.5	1.05	0.2	312.8	10.88	-61.756	53	A
KZAxxx_KN	SKS	EQ070231716	42.08	75.25	48	9	0.75	0.2	98.59	-13.1	167.054	188.1	A
KZAxxx_KN	SKS	EQ070921202	42.08	75.25	44	8	1	0.2	101.5	-8.706	157.62	14	A
KZAxxx_KN	SKS	EQ070940039	42.08	75.25	42	15	1	0.4	101.4	-7.141	156.047	10	B
KZAxxx_KN	SKS	EQ071151334	42.08	75.25	46	13	0.7	0.2	99.62	-14.29	166.863	55	B
KZAxxx_KN	SKS	EQ071210015	42.08	75.25	48	4.5	0.85	0.1	102	-7.124	155.134	9	A
KZAxxx_KN	SKS	EQ072131708	42.08	75.25	37	6	1.05	0.2	100.1	-15.6	167.68	120	A

KZAxxx_KN	SKS	EQ073430728	42.08	75.25	68	19	0.8	0.45	99.67	-25.996	-177.51	152.5	B
KZAxxx_KN	SKS	EQ080721123	42.08	75.25	54	11.5	0.6	0.13	101.1	-16.567	167.335	13	A
KZAxxx_KN	SKS	EQ081050945	42.08	75.25	-79	11.5	0.7	0.23	225.9	-56.022	-28.035	140.2	B
KZAxxx_KN	SKS	EQ081172334	42.08	75.25	75	3	1.35	0.12	130.9	-49.091	164.117	10	A
KZAxxx_KN	SKS	EQ081451324	42.08	75.25	57	8	0.8	0.15	101.4	-7.181	156.069	29	A
KZAxxx_KN	SKS	EQ081551620	42.08	75.25	52	6	0.8	0.1	100.4	-10.509	161.273	84	A
KZAxxx_KN	SKS	EQ081850302	42.08	75.25	65	12	0.8	0.2	98.65	-23.37	-179.78	581.2	B
KZAxxx_KN	SKS	EQ082010927	42.08	75.25	34	9.5	0.75	0.2	98.71	-11.041	164.493	11	B
KZAxxx_KN	SKS	EQ082012239	42.08	75.25	48	11	0.6	0.17	91.85	-17.337	-177.31	391	B
KZAxxx_KN	SKS	EQ082450400	42.08	75.25	41	16.5	0.6	0.17	99.18	-25.387	-177.64	171.1	B
KZAxxx_KN	SKS	EQ082480937	42.08	75.25	54	6	0.75	0.1	97.84	-12.143	167.101	272	A
KZAxxx_KN	SKS	EQ082520303	42.08	75.25	39	6	0.9	0.15	102.6	-19.964	169.108	36	B
KZAxxx_KN	SKS	EQ082531222	42.08	75.25	47	13	0.75	0.15	101.5	-9.272	158.261	12	A
KZAxxx_KN	SKS	EQ083091835	42.08	75.25	52	3.5	0.7	0.05	100.8	-17.135	168.458	205.7	A
KZAxxx_KN	SKS	EQ083260705	42.08	75.25	59	7	0.85	0.15	100.4	-8.947	159.553	118	B
KZAxxx_KN	SKS	EQ083441728	42.08	75.25	59	11	0.7	0.18	100.1	-15.929	168.173	224.1	A
KZAxxx_KN	SKS	EQ083451315	42.08	75.25	38	9	0.85	0.18	98.33	-12.337	166.572	51	B
KZAxxx_KN	SKS	EQ091562116	42.08	75.25	50	5.5	0.75	0.08	101.5	-17.429	167.721	7	A
KZAxxx_KN	SKS	EQ091630944	42.08	75.25	51	14	0.8	0.2	101.6	-17.611	167.812	15	B
KZAxxx_KN	SKS	EQ092170831	42.08	75.25	65	5	1.3	0.18	126.5	-45.554	166.356	10	B
KZAxxx_KN	SKS	EQ092220406	42.08	75.25	48	11	0.65	0.15	98.09	-11.612	166.09	35	A
KZAxxx_KN	SKS	EQ092812116	42.08	75.25	49	15	0.7	0.2	98.93	-12.912	166.314	35	B
KZAxxx_KN	SKS	EQ092961514	42.08	75.25	50	17	0.75	0.35	98.56	-12.196	166.047	31.1	B
KZAxxx_KN	SKS	EQ093260748	42.08	75.25	42	14	0.65	0.22	92.96	-17.794	-178.43	522.6	B
KZAxxx_KN	SKS	EQ100631402	42.08	75.25	65	6.5	0.8	0.12	98.84	-13.571	167.227	176	A
KZAxxx_KN	SKS	EQ101001654	42.08	75.25	57	10	0.8	0.17	93.54	-20.114	-176.22	273.2	B
KZAxxx_KN	SKS	EQ101010940	42.08	75.25	54	11.5	0.95	0.25	100.8	-10.878	161.116	21	A
KZAxxx_KN	SKS	EQ101770530	42.08	75.25	40	9	0.9	0.22	100.4	-10.627	161.447	35	A
KZAxxx_KN	SKS	EQ102222318	42.08	75.25	51	3	0.65	0.05	99.45	-14.46	167.345	191.6	A
KZAxxx_KN	SKS	EQ102470852	42.08	75.25	55	21.5	0.4	0.35	89.68	-17.368	-174	69	B
KZAxxx_KN	SKS	EQ103470114	42.08	75.25	56	4	0.8	0.08	101.3	-6.534	155.647	135.8	A
KZAxxx_KN	SKS	EQ103620834	42.08	75.25	31	9.5	0.9	0.3	98.7	-23.407	-179.8	551	B
KZAxxx_KN	SKS	EQ110091003	42.08	75.25	46	12	0.75	0.15	102.5	-19.155	168.312	22	B
KZAxxx_KN	SKS	EQ110521057	42.08	75.25	60	5.5	0.75	0.1	102.2	-26.142	178.394	558.1	A
KZAxxx_KN	SKS	EQ110931407	42.08	75.25	48	12.5	0.5	0.12	92.94	-17.642	-178.59	551.7	A
KZAxxx_KN	SKS	EQ111081303	42.08	75.25	59	10.5	0.95	0.23	109.2	-34.336	179.874	86	A
KZAxxx_KN	SKS	EQ111130416	42.08	75.25	52	6.5	0.8	0.12	100.4	-10.375	161.2	79	A
KZAxxx_KN	SKS	EQ111211612	42.08	75.25	85	14.5	0.9	0.42	101.4	-6.954	155.857	54.7	B
KZAxxx_KN	SKS	EQ942741635	42.08	75.25	53	8.5	0.8	0.12	101.8	-17.745	167.682	16.6	A
KZAxxx_KN	SKS	EQ943090216	42.08	75.25	-87	14	1.2	0.35	141.2	-57.193	157.858	24.7	B
KZAxxx_KN	SKS	EQ943480728	42.08	75.25	60	15.5	1.05	0.7	100.9	-9.519	159.411	16.3	B
KZAxxx_KN	SKS	EQ950842244	42.08	75.25	42	9.5	0.85	0.22	97.61	-10.998	166.123	79.4	B
KZAxxx_KN	SKS	EQ951070114	42.08	75.25	64	8	0.75	0.1	102.1	-8.527	156.612	11.5	B
KZAxxx_KN	SKS	EQ951801224	42.08	75.25	55	5.5	0.7	0.1	102.2	-19.544	169.287	139.4	A
KZAxxx_KN	SKS	EQ951960135	42.08	75.25	44	11	0.8	0.2	94.2	-19.9	-177.55	358	A

KZAxxx_KN	SKS	EQ952091429	42.08	75.3	62	10	0.7	0.18	93.96	-21.182	-175.39	92.4	A
KZAxxx_KN	SKS	EQ952281504	42.08	75.3	60	14.5	0.95	0.28	107.1	-31.95	179.362	463	B
KZAxxx_KN	SKS	EQ952791139	42.08	75.3	51	11.5	0.6	0.12	93.25	-20.002	-175.92	198	A
KZAxxx_KN	SKS	EQ952821343	42.08	75.3	62	11.5	0.7	0.18	103.2	-21.474	170.176	105	B
KZAxxx_KN	SKS	EQ960771448	42.08	75.3	52	3.5	0.65	0.07	99.67	-14.705	167.297	164	A
KZAxxx_KN	SKS	EQ960912341	42.08	75.3	46	8	0.65	0.13	98.06	-11.178	165.644	33	A
KZAxxx_KN	SKS	EQ961620104	42.08	75.3	38	15.5	0.55	0.2	98.84	-13.481	167.13	200	B
KZAxxx_KN	SKS	EQ962882326	42.08	75.3	54	17	0.6	0.25	101.7	-7.133	155.568	24	B
KZAxxx_KN	SKS	EQ981901445	42.08	75.3	47	12	1.05	0.23	104.8	-30.487	-178.99	130	B
KZAxxx_KN	SKS	EQ981971156	42.08	75.3	27	15	0.8	0.28	97.61	-11.04	166.16	110	B
KZAxxx_KN	SKS	EQ981991641	42.08	75.3	56	12.5	1.05	0.25	102	-18.369	168.173	33	B
KZAxxx_KN	SKS	EQ982060239	42.08	75.3	56	10	0.65	0.15	99.1	-13.608	166.867	43.5	B
KZAxxx_KN	SKS	EQ982730303	42.08	75.3	68	14	0.85	0.28	101.3	-17.202	167.832	33	B
KZAxxx_KN	SKS	EQ983291805	42.08	75.3	45	11.5	1	0.3	100.2	-7.859	158.622	47.9	B
KZAxxx_KN	SKS	EQ990372147	42.08	75.3	44	13	0.6	0.17	98.64	-12.853	166.697	90.1	A
KZAxxx_KN	SKS	EQ990530100	42.08	75.3	67	11	1.15	0.28	103.5	-21.452	169.682	33	B
KZAxxx_KN	SKS	EQ990991216	42.08	75.3	65	7	0.75	0.1	102.5	-26.354	178.221	621	B
KZAxxx_KN	SKS	EQ991020941	42.08	75.3	66	10	0.85	0.15	103	-20.036	168.575	42.8	B
KZAxxx_KN	SKS	EQ991031038	42.08	75.3	32	17.5	0.55	0.2	94.85	-21.422	-176.46	164	B
KZAxxx_KN	SKS	EQ991101904	42.08	75.3	54	9	1.2	0.27	106.2	-31.888	-179.04	95.7	B
KZAxxx_KN	SKS	EQ992140947	42.08	75.3	54	10.5	0.55	0.12	98.1	-12.55	167.175	251	B
NRNxxx_KR	PKS	EQ090591433	41.42	76	-77	9	1	0.25	219.3	-60.525	-24.796	15	B
NRNxxx_KR	PKS	EQ092881748	41.42	76	39	12.5	0.7	0.23	359.7	3.272	-103.82	10	B
NRNxxx_KR	PKS	EQ121540752	41.42	76	46	12	0.7	0.23	287	-22.059	-63.555	527	B
NRNxxx_KR	SKKS	EQ082012239	41.42	76	20	8.5	0.75	0.23	92.61	-17.337	-177.31	391	B
NRNxxx_KR	SKKS	EQ091930612	41.42	76	53	6.5	1.25	0.33	302.2	-15.041	-70.445	199	B
NRNxxx_KR	SKKS	EQ092302120	41.42	76	63	6.5	0.65	0.1	101	-26.064	-178.39	270	B
NRNxxx_KR	SKKS	EQ092451800	41.42	76	67	9	0.9	0.2	104.5	-29.395	-178.96	257	A
NRNxxx_KR	SKKS	EQ093170727	41.42	76	61	15	0.6	0.18	292.4	-17.917	-64.095	608	B
NRNxxx_KR	SKKS	EQ093181944	41.42	76	84	13	0.8	0.25	288.8	-22.965	-66.641	220	B
NRNxxx_KR	SKKS	EQ093260748	41.42	76	32	12.5	0.85	0.28	93.72	-17.794	-178.43	523	B
NRNxxx_KR	SKKS	EQ100632239	41.42	76	74	14	0.55	0.15	291.5	-22.227	-68.328	114	B
NRNxxx_KR	SKKS	EQ100851452	41.42	76	77	17	0.8	0.38	285.8	-27.953	-70.821	42	B
NRNxxx_KR	SKKS	EQ102951931	41.42	76	76	14	0.65	0.25	293.3	-20.878	-68.372	132	B
NRNxxx_KR	SKKS	EQ103620834	41.42	76	74	9.5	0.9	0.22	99.46	-23.407	-179.8	551	B
NRNxxx_KR	SKKS	EQ110521057	41.42	76	59	11	0.6	0.15	103	-26.142	178.394	558	B
NRNxxx_KR	SKKS	EQ110921059	41.42	76	-88	7.5	0.8	0.2	295.6	-19.576	-69.065	84.4	B
NRNxxx_KR	SKKS	EQ110931407	41.42	76	34	15.5	0.6	0.2	93.69	-17.642	-178.59	552	B
NRNxxx_KR	SKKS	EQ111081303	41.42	76	82	6	1.75	0.3	109.9	-34.336	179.874	86	B
NRNxxx_KR	SKKS	EQ140330926	41.42	76	80	14.5	1.45	0.5	107.4	-32.91	-177.86	33.9	B
NRNxxx_KR	SKS	EQ081992251	41.42	76	41	10.5	1.4	0.43	17.92	44.371	-129.42	10	B
NRNxxx_KR	SKS	EQ082010927	41.42	76	82	7.5	1.3	0.47	99.25	-11.041	164.493	11	B
NRNxxx_KR	SKS	EQ082012239	41.42	76	36	9.5	0.7	0.13	92.61	-17.337	-177.31	391	A
NRNxxx_KR	SKS	EQ090492153	41.42	76	67	7.5	1.55	0.27	101.1	-27.424	-176.33	25	B
NRNxxx_KR	SKS	EQ091081749	41.42	76	38	5.5	1.05	0.2	96.19	-20.613	-178.48	566	B

NRNxxx_KR	SKS	EQ091160006	41.42	75.98	60	9	1.35	0.25	105.2	-30.3	-178.58	131.7	B
NRNxxx_KR	SKS	EQ091530217	41.42	75.98	83	11	1.25	0.43	102.2	-17.76	167.949	15	B
NRNxxx_KR	SKS	EQ091562116	41.42	75.98	61	18.5	0.75	0.45	102.1	-17.43	167.721	7	B
NRNxxx_KR	SKS	EQ092451800	41.42	75.98	43	3	1.3	0.15	104.5	-29.4	-178.96	257	B
NRNxxx_KR	SKS	EQ092812116	41.42	75.98	40	15.5	0.8	0.28	99.5	-12.91	166.314	35	B
NRNxxx_KR	SKS	EQ092840447	41.42	75.98	54	18.5	0.95	1	99.7	-13	166.116	44.8	B
NRNxxx_KR	SKS	EQ092961514	41.42	75.98	35	14.5	0.95	0.38	99.13	-12.2	166.047	31.1	B
NRNxxx_KR	SKS	EQ093041909	41.42	75.98	44	9.5	0.8	0.15	98.29	-11.38	166.376	133.9	A
NRNxxx_KR	SKS	EQ093260748	41.42	75.98	35	9.5	0.8	0.2	93.72	-17.79	-178.43	522.6	A
NRNxxx_KR	SKS	EQ093281247	41.42	75.98	32	19	0.85	0.38	93.48	-20.71	-174.04	18	B
NRNxxx_KR	SKS	EQ100090551	41.42	75.98	71	13	1.1	0.35	102.3	-9.131	157.626	12	B
NRNxxx_KR	SKS	EQ100631402	41.42	75.98	29	7.5	0.8	0.23	99.43	-13.57	167.227	176	B
NRNxxx_KR	SKS	EQ101471714	41.42	75.98	60	9.5	0.9	0.15	99.9	-13.7	166.643	31	B
NRNxxx_KR	SKS	EQ102222318	41.42	75.98	52	7	0.7	0.1	100	-14.46	167.345	191.6	A
NRNxxx_KR	SKS	EQ102470852	41.42	75.98	51	10.5	0.55	0.12	90.49	-17.37	-174	69	B
NRNxxx_KR	SKS	EQ103470114	41.42	75.98	55	17.5	0.4	0.2	101.7	-6.534	155.647	135.8	B
NRNxxx_KR	SKS	EQ103591316	41.42	75.98	58	12.5	1.3	0.35	103.8	-19.7	167.947	16	B
NRNxxx_KR	SKS	EQ103620834	41.42	75.98	39	8	1	0.2	99.46	-23.41	-179.8	551	A
NRNxxx_KR	SKS	EQ103630654	41.42	75.98	78	16.5	1.3	0.5	103.6	-19.66	168.14	16	B
NRNxxx_KR	SKS	EQ110521057	41.42	75.98	46	10.5	0.75	0.15	103	-26.14	178.394	558.1	B
NRNxxx_KR	SKS	EQ110931407	41.42	75.98	34	6	0.8	0.12	93.69	-17.64	-178.59	551.7	A
NRNxxx_KR	SKS	EQ111050206	41.42	75.98	26	13	0.75	0.28	88.17	-15.28	-173.23	7	A
NRNxxx_KR	SKS	EQ111081303	41.42	75.98	59	10.5	1.2	0.25	109.9	-34.34	179.874	86	B
NRNxxx_KR	SKS	EQ111130416	41.42	75.98	46	15	0.75	0.25	100.9	-10.38	161.2	79	B
NRNxxx_KR	SKS	EQ112460448	41.42	75.98	-74	5.5	1.3	0.23	224.9	-56.45	-26.847	84	B
NRNxxx_KR	SKS	EQ112521941	41.42	75.98	61	4.5	1.15	0.1	14.69	49.535	-126.89	22	A
NRNxxx_KR	SKS	EQ121590901	41.42	75.98	59	6.5	0.85	0.12	94.48	-20.19	-176.34	266	B
NRNxxx_KR	SKS	EQ122942300	41.42	75.98	75	5	1.2	0.27	99.83	-13.55	166.564	36	B
NRNxxx_KR	SKS	EQ131032249	41.42	75.98	78	8	1.35	0.38	102.3	-19.14	169.535	280.2	B
NRNxxx_KR	SKS	EQ132030701	41.42	75.98	88	5.5	1.85	0.3	207.4	-46.04	34.826	10	B
NRNxxx_KR	SKS	EQ133270748	41.42	75.98	58	19.5	0.5	0.23	91.93	-17.11	-176.54	371	B
NRNxxx_KR	SKS	EQ140011603	41.42	75.98	54	14	0.7	0.2	99.64	-13.86	167.249	187	A
NRNxxx_KR	SKS	EQ140130401	41.42	75.98	-52	17.5	1.45	0.7	322.3	19.041	-66.805	20	B
NRNxxx_KR	SKS	EQ140330926	41.42	75.98	82	8.5	1.85	0.45	107.4	-32.91	-177.86	33.9	B
NRNxxx_XW	PKS	EQ980100454	41.42	75.98	82	16	0.85	0.38	307.1	-12.03	-72.074	33	B
NRNxxx_XW	SKKS	EQ992580301	41.42	75.98	62	17.5	0.4	0.2	292.1	-20.93	-67.275	218	B
NRNxxx_XW	SKS	EQ981901445	41.42	75.98	61	15.5	1.2	0.65	105.6	-30.49	-178.99	129.5	B
NRNxxx_XW	SKS	EQ981971156	41.42	75.98	13	9	0.85	0.22	98.18	-11.04	166.16	110.2	B
OHHxxx_KR	PKS	EQ093170305	40.53	72.78	-89	12	1.4	0.4	292.7	-19.39	-70.321	27	B
OHHxxx_KR	PKS	EQ101441618	40.53	72.78	-82	3.5	1.45	0.15	305.7	-8.087	-71.558	581.2	B
OHHxxx_KR	PKS	EQ112361746	40.53	72.78	83	9.5	1	0.2	309.4	-7.641	-74.525	147	B
OHHxxx_KR	SKKS	EQ092072301	40.53	72.78	45	2.5	1.1	0.1	100.4	-17.76	168.089	25	A
OHHxxx_KR	SKKS	EQ100100027	40.53	72.78	78	5	1.3	0.25	13.33	40.652	-124.69	29.3	B
OHHxxx_KR	SKKS	EQ110521057	40.53	72.78	69	9	1.25	0.38	101.6	-26.14	178.394	558.1	B
OHHxxx_KR	SKKS	EQ110931407	40.53	72.78	71	2.5	1.2	0.12	92.05	-17.64	-178.59	551.7	B

OHHxxx_KR	SKKS	EQ111711636	40.53	72.78	76	9.5	1.2	0.27	287.8	-21.7	-68.23	128	B
OHHxxx_KR	SKKS	EQ112361746	40.53	72.78	-66	14	1.15	0.7	309.4	-7.641	-74.53	147	B
OHHxxx_KR	SKS	EQ092170831	40.53	72.78	76	10.5	1.35	0.28	126.2	-45.55	166.4	10	B
OHHxxx_KR	SKS	EQ093260748	40.53	72.78	69	3.5	1.8	0.17	92.08	-17.79	-178.4	523	B
OHHxxx_KR	SKS	EQ103470114	40.53	72.78	78	2.5	2	0.22	99.56	-6.534	155.6	136	B
OHHxxx_KR	SKS	EQ110521057	40.53	72.78	52	9.5	1.3	0.2	101.6	-26.14	178.4	558	B
OHHxxx_KR	SKS	EQ111130416	40.53	72.78	70	16	1.15	0.4	98.9	-10.38	161.2	79	B
OHHxxx_KR	SKS	EQ112100742	40.53	72.78	71	3	1.95	0.2	98.6	-23.78	179.8	523	B
OHHxxx_KR	SKS	EQ112351751	40.53	72.78	-49	12	0.95	0.28	337	37.91	-77.94	6	B
OHHxxx_KR	SKS	EQ112362306	40.53	72.78	69	12	1.9	0.6	100.9	-18.16	167.7	13	B
OHHxxx_KR	SKS	EQ112521941	40.53	72.78	61	11.5	1.25	0.2	12.67	49.54	-126.9	22	B
OHHxxx_KR	SKS	EQ122102003	40.53	72.78	80	4.5	1.2	0.22	99.76	-4.651	153.2	41	A
PDGxxx_KZ	PKS	EQ062731626	43.33	79.48	-82	16	0.9	0.3	311.4	-15.59	-73.16	107	B
PDGxxx_KZ	PKS	EQ070550236	43.33	79.48	75	4	1.05	0.2	328.2	-7.006	-80.49	23	B
PDGxxx_KZ	PKS	EQ072021327	43.33	79.48	76	2.5	1.15	0.1	315.3	-8.133	-71.27	645	B
PDGxxx_KZ	PKS	EQ080411222	43.33	79.48	-80	17	0.55	0.25	220.8	-60.8	-25.59	8	B
PDGxxx_KZ	PKS	EQ092881748	43.33	79.48	72	12	0.65	0.2	4.55	3.272	-103.8	10	B
PDGxxx_KZ	SKKS	EQ000132007	43.33	79.48	55	12.5	0.5	0.15	95.28	-17.61	-178.7	535	B
PDGxxx_KZ	SKKS	EQ041062006	43.33	79.48	62	13	0.8	0.2	104.2	-19.37	169.6	10	B
PDGxxx_KZ	SKKS	EQ043282104	43.33	79.48	55	8	0.7	0.13	102.3	-24.29	179	532	A
PDGxxx_KZ	SKKS	EQ050781734	43.33	79.48	56	17	0.5	0.25	99.32	-21.89	-179.5	599	B
PDGxxx_KZ	SKKS	EQ060570308	43.33	79.48	43	8.5	0.85	0.2	101	-23.61	-180	535	B
PDGxxx_KZ	SKKS	EQ060901321	43.33	79.48	41	16	1.05	0.22	104.2	-29.44	-176.8	13	B
PDGxxx_KZ	SKKS	EQ061530731	43.33	79.48	41	4	0.75	0.07	97.9	-20.84	-178.7	592	A
PDGxxx_KZ	SKKS	EQ062710622	43.33	79.48	32	6	1.65	0.22	89.95	-16.59	-172	28	B
PDGxxx_KZ	SKKS	EQ062881707	43.33	79.48	-77	14.5	1.05	0.35	51.7	19.88	-155.9	39.1	B
PDGxxx_KZ	SKKS	EQ070941100	43.33	79.48	57	12.5	1.3	0.42	105.7	-20.72	168.8	13	B
PDGxxx_KZ	SKKS	EQ071262111	43.33	79.48	29	11	0.75	0.25	97.14	-19.4	-179.4	676	B
PDGxxx_KZ	SKKS	EQ072780717	43.33	79.48	57	11	0.65	0.15	102.7	-25.19	179.5	509	A
PDGxxx_KZ	SKKS	EQ072892105	43.33	79.48	54	9	0.55	0.1	103.2	-25.78	179.5	509	B
PDGxxx_KZ	SKKS	EQ080151752	43.33	79.48	61	15.5	0.75	0.25	99.39	-21.98	-179.5	598	B
PDGxxx_KZ	SKKS	EQ990652028	43.33	79.48	58	11.5	0.7	0.2	99.14	-21.73	-179.5	603	A
PDGxxx_KZ	SKKS	EQ991101904	43.33	79.48	80	14	0.8	0.28	107.8	-31.89	-179	95.7	B
PDGxxx_KZ	SKKS	EQ991991034	43.33	79.48	60	6	0.9	0.12	100.5	-22.55	179.4	591	B
PDGxxx_KZ	SKS	EQ011461057	43.33	79.49	42	12	0.9	0.3	96.9	-20.29	-177.8	407	B
PDGxxx_KZ	SKS	EQ011540241	43.33	79.49	55	5	1.05	0.15	105.5	-29.67	-178.6	178	A
PDGxxx_KZ	SKS	EQ012221624	43.33	79.49	60	3.5	1	0.1	102.3	-14.7	167.1	82	B
PDGxxx_KZ	SKS	EQ012731901	43.33	79.49	48	5	1.1	0.15	104.5	-18.42	168.1	33	B
PDGxxx_KZ	SKS	EQ012750048	43.33	79.49	41	8	0.85	0.18	90.84	-16.18	-173.8	107	B
PDGxxx_KZ	SKS	EQ012992305	43.33	79.49	45	5	1.35	0.2	104.5	-18.49	168.1	33	B
PDGxxx_KZ	SKS	EQ013360247	43.33	79.49	48	4.5	1.15	0.18	101.2	-12.74	166.7	101	B
PDGxxx_KZ	SKS	EQ013461253	43.33	79.49	48	2	1.05	0.07	103.8	-17.19	167.7	33	B
PDGxxx_KZ	SKS	EQ013572252	43.33	79.49	47	8	1.25	0.25	103.8	-9.613	159.5	16	B
PDGxxx_KZ	SKS	EQ013611054	43.33	79.49	52	3	0.95	0.1	102.2	-14.65	167.3	153	A
PDGxxx_KZ	SKS	EQ020021722	43.33	79.49	53	4.5	1.1	0.12	104	-17.6	167.9	21	B

PDGxxx_KZ	SKS	EQ020031017	43.33	79.49	57	5.5	1.35	0.2	104	-17.664	168	10	B
PDGxxx_KZ	SKS	EQ021131505	43.33	79.49	47	8.5	0.85	0.2	100.8	-12.518	166.94	217.3	A
PDGxxx_KZ	SKS	EQ021780716	43.33	79.49	46	11	1.05	0.3	101.3	-13.275	167.05	186.7	B
PDGxxx_KZ	SKS	EQ022311108	43.33	79.49	75	5.5	2.6	0.1	102.2	-23.884	178.5	675.4	B
PDGxxx_KZ	SKS	EQ032331212	43.33	79.48	76	13	1.6	0.5	127.1	-45.104	167.14	28	B
PDGxxx_KZ	SKS	EQ032420005	43.33	79.48	68	22	0.55	0.6	102.3	-14.796	167.24	137	B
PDGxxx_KZ	SKS	EQ033101038	43.33	79.48	64	14	0.7	0.3	104.6	-19.262	168.89	113.7	A
PDGxxx_KZ	SKS	EQ033561915	43.33	79.48	76	5.5	1.3	0.2	16.85	35.701	-121.1	8.7	B
PDGxxx_KZ	SKS	EQ040251143	43.33	79.48	22	7.5	0.55	0.1	91.62	-16.83	-174.2	129.8	A
PDGxxx_KZ	SKS	EQ040510558	43.33	79.48	47	10	0.7	0.1	100.5	-11.608	166.45	84	A
PDGxxx_KZ	SKS	EQ041740904	43.33	79.48	41	17	0.7	0.3	100.1	-10.902	166.26	152.8	B
PDGxxx_KZ	SKS	EQ043282104	43.33	79.48	60	9.5	0.65	0.1	102.3	-24.294	178.99	532.3	A
PDGxxx_KZ	SKS	EQ050391448	43.33	79.48	57	8.5	0.6	0.1	101.9	-14.252	167.26	206.3	B
PDGxxx_KZ	SKS	EQ050781734	43.33	79.48	52	9	0.65	0.1	99.32	-21.893	-179.55	598.7	B
PDGxxx_KZ	SKS	EQ051011708	43.33	79.48	77	7.5	1.05	0.2	105.6	-21.975	170.61	68	B
PDGxxx_KZ	SKS	EQ051401240	43.33	79.48	53	13	0.7	0.2	102.6	-24.529	178.84	565.3	B
PDGxxx_KZ	SKS	EQ051680621	43.33	79.48	63	6.5	1.8	0.3	19.51	40.773	-126.57	12	B
PDGxxx_KZ	SKS	EQ060570308	43.33	79.48	55	12	0.55	0.1	101	-23.607	-179.99	535.2	A
PDGxxx_KZ	SKS	EQ060660628	43.33	79.48	60	12	0.6	0.1	102.2	-14.805	167.37	136.2	A
PDGxxx_KZ	SKS	EQ061200817	43.33	79.48	56	14	0.6	0.2	102.4	-15.103	167.44	127.7	B
PDGxxx_KZ	SKS	EQ061530731	43.33	79.48	50	11	0.5	0.2	97.9	-20.837	-178.7	591.6	A
PDGxxx_KZ	SKS	EQ061991602	43.33	79.48	54	12	0.45	0.1	97.1	-20.084	-178.43	587.2	B
PDGxxx_KZ	SKS	EQ062192218	43.33	79.48	54	6	0.65	0.1	102.7	-15.798	167.79	150	A
PDGxxx_KZ	SKS	EQ062462257	43.33	79.48	64	12	0.6	0.2	102.2	-24.046	178.82	568.1	B
PDGxxx_KZ	SKS	EQ062761803	43.33	79.48	61	9.5	0.65	0.1	104.2	-18.84	169	161	B
PDGxxx_KZ	SKS	EQ062911045	43.33	79.48	70	18	0.85	0.4	102.5	-15.053	167.27	115	B
PDGxxx_KZ	SKS	EQ070940634	43.33	79.48	62	17	0.75	0.4	104.5	-7.76	156.49	17	B
PDGxxx_KZ	SKS	EQ070941100	43.33	79.48	66	19	0.9	0.3	105.7	-20.715	168.83	13	B
PDGxxx_KZ	SKS	EQ071151334	43.33	79.48	35	13	0.6	0.2	102.2	-14.285	166.86	55	B
PDGxxx_KZ	SKS	EQ071262111	43.33	79.48	42	6	0.65	0.1	97.14	-19.401	-179.35	676.4	B
PDGxxx_KZ	SKS	EQ071331126	43.33	79.48	47	14	0.6	0.2	97.21	-19.513	-179.33	668.6	B
PDGxxx_KZ	SKS	EQ071960927	43.33	79.48	62	18	0.5	0.3	101.9	-15.383	168.6	8	B
PDGxxx_KZ	SKS	EQ072241205	43.33	79.48	51	17	0.55	0.2	100.5	-11.378	166.27	42	B
PDGxxx_KZ	SKS	EQ072381237	43.33	79.48	30	5.5	0.75	0.1	92.23	-17.457	-174.34	127.4	A
PDGxxx_KZ	SKS	EQ072571151	43.33	79.48	50	13	0.65	0.2	101.3	-23.645	179.68	552.4	B
PDGxxx_KZ	SKS	EQ072710044	43.33	79.48	58	15	1.15	0.3	105.9	-21.28	169.26	10	B
PDGxxx_KZ	SKS	EQ072710101	43.33	79.48	34	13	0.95	0.3	105.8	-21.207	169.36	12	B
PDGxxx_KZ	SKS	EQ072780717	43.33	79.48	57	11	0.55	0.1	102.7	-25.189	179.46	509.4	A
PDGxxx_KZ	SKS	EQ072892105	43.33	79.48	58	11	0.55	0.1	103.2	-25.775	179.53	509.3	A
PDGxxx_KZ	SKS	EQ073430728	43.33	79.48	37	12	0.65	0.1	101.6	-25.996	-177.51	152.5	A
PDGxxx_KZ	SKS	EQ080151752	43.33	79.48	35	14	0.7	0.2	99.39	-21.984	-179.54	597.6	B
PDGxxx_KZ	SKS	EQ080721123	43.33	79.48	42	9.5	0.75	0.1	103.6	-16.567	167.34	13	A
PDGxxx_KZ	SKS	EQ091530217	43.33	79.48	29	4.5	1.15	0.1	104.1	-17.757	167.95	15	B
PDGxxx_KZ	SKS	EQ990372147	43.33	79.48	27	20	0.6	0.2	101.2	-12.853	166.7	90.1	B
PDGxxx_KZ	SKS	EQ990530100	43.33	79.48	50	17	0.6	0.2	105.8	-21.452	169.68	33	B

PDGxxx_KZ	SKS	EQ991031038	43.33	79.48	12	6	0.85	0.2	96.95	-21.42	-176.46	164.2	B
PDGxxx_KZ	SKS	EQ991101904	43.33	79.48	50	15.5	0.7	0.18	107.8	-31.89	-179.04	95.7	B
PDGxxx_KZ	SKS	EQ991450734	43.33	79.48	53	13	0.65	0.18	104.1	-19.08	169.438	242.6	B
PDGxxx_KZ	SKS	EQ991591204	43.33	79.48	85	7.5	0.8	0.12	318.1	15.04	-60.421	54.6	B
PDGxxx_KZ	SKS	EQ992601454	43.33	79.48	41	17	0.55	0.22	101.6	-13.79	167.238	196.8	B
PDGxxx_XW	SKKS	EQ000132007	43.33	79.49	39	15	0.55	0.17	95.29	-17.61	-178.74	535	B
PDGxxx_XW	SKKS	EQ981360222	43.33	79.49	30	11.5	0.75	0.18	99.59	-22.23	-179.52	586.1	B
PDGxxx_XW	SKKS	EQ981901445	43.33	79.49	51	18	0.95	0.6	106.5	-30.49	-178.99	129.5	B
PDGxxx_XW	SKKS	EQ990652028	43.33	79.49	35	16.5	0.8	0.12	99.14	-21.73	-179.47	602.7	B
PDGxxx_XW	SKKS	EQ991991034	43.33	79.49	60	9.5	0.9	0.2	100.5	-22.55	179.412	590.9	B
PDGxxx_XW	SKS	EQ973191859	43.33	79.49	50	15.5	0.8	0.3	102.5	-15.15	167.375	123.1	B
PDGxxx_XW	SKS	EQ980380320	43.33	79.49	40	7	0.8	0.15	102.3	-14.8	167.323	129.1	B
PDGxxx_XW	SKS	EQ981360222	43.33	79.49	58	15	0.4	0.2	99.59	-22.23	-179.52	586.1	B
PDGxxx_XW	SKS	EQ981991641	43.33	79.49	74	5.5	1.1	0.17	104.4	-18.37	168.173	33	B
PDGxxx_XW	SKS	EQ982001558	43.33	79.49	58	19	0.4	0.25	96.88	-21.84	-175.79	72.1	B
PDGxxx_XW	SKS	EQ982841204	43.33	79.49	48	11.5	0.7	0.18	98.34	-21.04	-179.11	623.9	B
PDGxxx_XW	SKS	EQ983181503	43.33	79.49	62	11.5	0.7	0.15	102.4	-14.95	167.367	115.1	B
PDGxxx_XW	SKS	EQ983190244	43.33	79.49	40	16	0.55	0.15	97.13	-21.59	-176.5	149.1	B
PDGxxx_XW	SKS	EQ983291805	43.33	79.49	53	16	0.65	0.2	103.1	-7.859	158.622	47.9	B
PDGxxx_XW	SKS	EQ983610038	43.33	79.49	61	19.5	0.5	0.28	97.08	-21.63	-176.38	144.3	B
PDGxxx_XW	SKS	EQ990372147	43.33	79.49	38	22	0.5	0.28	101.3	-12.85	166.697	90.1	B
PDGxxx_XW	SKS	EQ990530100	43.33	79.49	51	13.5	0.6	0.13	105.8	-21.45	169.682	33	B
PDGxxx_XW	SKS	EQ991031038	43.33	79.49	20	3.5	0.65	0.1	96.96	-21.42	-176.46	164.2	B
PDGxxx_XW	SKS	EQ991101904	43.33	79.49	77	12	0.9	0.2	107.8	-31.89	-179.04	95.7	B
PDGxxx_XW	SKS	EQ991450734	43.33	79.49	54	13	0.6	0.15	104.1	-19.08	169.438	242.6	B
PDGxxx_XW	SKS	EQ991591204	43.33	79.49	82	6	0.75	0.15	318.1	15.04	-60.421	54.6	B
PDGxxx_XW	SKS	EQ992401240	43.33	79.49	85	6	1.05	0.2	327.5	-1.287	-77.549	196.4	B
PDGxxx_XW	SKS	EQ992601454	43.33	79.49	41	17	0.55	0.22	101.6	-13.79	167.238	196.8	B
TKM2xx_KN	PKS	EQ002722323	42.92	75.6	72	7	1.6	0.62	326.8	-0.215	-80.582	22.9	B
TKM2xx_KN	PKS	EQ023510432	42.92	75.6	60	7	1.15	0.45	224.6	-56.95	-24.825	10	B
TKM2xx_KN	PKS	EQ042552152	42.92	75.6	-76	16	0.6	0.25	223.4	-57.98	-25.342	63.9	B
TKM2xx_KN	PKS	EQ050281546	42.92	75.6	75	3	1.8	0.27	327.1	-1.089	-81.157	10	B
TKM2xx_KN	PKS	EQ051011454	42.92	75.6	73	9	1.15	0.35	319	-7.293	-77.886	129.9	B
TKM2xx_KN	PKS	EQ051410511	42.92	75.6	80	5	1.75	0.3	325.6	-3.286	-80.987	39.5	B
TKM2xx_KN	PKS	EQ052071411	42.92	75.6	76	7	1.2	0.22	306	-15.35	-72.962	110.5	B
TKM2xx_KN	PKS	EQ062731626	42.92	75.6	73	6	1.1	0.17	306	-15.59	-73.16	107	B
TKM2xx_KN	PKS	EQ080411222	42.92	75.6	58	13.5	0.9	0.35	219.9	-60.8	-25.586	8	A
TKM2xx_KN	PKS	EQ081361423	42.92	75.6	-65	11	0.85	0.3	223.5	-57.91	-25.483	35	B
TKM2xx_KN	PKS	EQ101260242	42.92	75.6	77	11	0.95	0.28	300.3	-18.06	-70.547	37	B
TKM2xx_KN	PKS	EQ101390415	42.92	75.6	76	6	1.45	0.32	320.1	-5.083	-77.541	132	B
TKM2xx_KN	PKS	EQ101441618	42.92	75.6	78	6	1.2	0.18	310.7	-8.087	-71.558	581.2	A
TKM2xx_KN	PKS	EQ952662231	42.92	75.6	69	8.5	1.8	0.6	317.4	-10.68	-78.581	59.9	A
TKM2xx_KN	PKS	EQ952761244	42.92	75.6	67	2.5	1.95	0.28	322	-2.778	-77.851	16.7	B
TKM2xx_KN	PKS	EQ960882303	42.92	75.6	75	6.5	1.3	0.4	324.1	-1.036	-78.737	33	B
TKM2xx_KN	PKS	EQ961180840	42.92	75.6	73	4.5	1.7	0.33	326.7	2.368	-79.341	10	B

TKM2xx_KN	PKS	EQ961510304	42.92	75.6	-79	14	0.6	0.2	225.2	-56.72	-26.311	84	B
TKM2xx_KN	PKS	EQ992151558	42.92	75.6	81	4.5	1.6	0.28	323.2	-3.453	-79.162	88.1	B
TKM2xx_KN	SKKS	EQ001140927	42.92	75.6	84	2.5	1.65	0.23	279.9	-28.31	-62.99	608.5	B
TKM2xx_KN	SKKS	EQ001141701	42.92	75.6	86	3	1.6	0.25	279.8	-28.38	-62.943	609.8	B
TKM2xx_KN	SKKS	EQ001252036	42.92	75.6	34	14.5	0.75	0.25	92.99	-17.91	-178.52	515.8	B
TKM2xx_KN	SKKS	EQ001292135	42.92	75.6	49	9	0.95	0.23	106	-31.32	179.839	383.1	B
TKM2xx_KN	SKKS	EQ001331843	42.92	75.6	82	8.5	1.25	0.28	289.4	-23.55	-66.452	225	B
TKM2xx_KN	SKKS	EQ001680755	42.92	75.6	83	4.5	1.35	0.3	277.1	-33.88	-70.088	120.2	B
TKM2xx_KN	SKKS	EQ002160109	42.92	75.6	36	10	1	0.3	98.28	-12.04	166.448	33	B
TKM2xx_KN	SKKS	EQ002280430	42.92	75.6	44	8	1.05	0.22	106.2	-31.51	179.725	357.7	A
TKM2xx_KN	SKKS	EQ003341025	42.92	75.6	-87	3.5	1.7	0.25	292.4	-24.87	-70.886	58.2	B
TKM2xx_KN	SKKS	EQ003530119	42.92	75.6	38	5	1.35	0.25	96.15	-21.18	-179.12	628.2	B
TKM2xx_KN	SKKS	EQ010750436	42.92	75.6	-89	8	1.35	0.28	295.6	-20.41	-68.743	115	B
TKM2xx_KN	SKKS	EQ011700932	42.92	75.6	-86	2.5	1.8	0.23	291.9	-22.74	-67.877	146.6	A
TKM2xx_KN	SKKS	EQ011801835	42.92	75.6	-86	1	1.65	0.07	294	-19.52	-66.254	273.9	A
TKM2xx_KN	SKKS	EQ011861353	42.92	75.6	89	13.5	1.4	0.37	306.5	-16.09	-73.987	62	B
TKM2xx_KN	SKKS	EQ012221624	42.92	75.6	51	5.5	1.2	0.18	99.85	-14.7	167.106	82	B
TKM2xx_KN	SKKS	EQ020870456	42.92	75.6	-89	5	1.9	0.35	293.7	-21.66	-68.329	125.1	B
TKM2xx_KN	SKKS	EQ021670655	42.92	75.6	62	17.5	0.8	0.33	93.06	-17.87	-178.7	569	B
TKM2xx_KN	SKKS	EQ030040515	42.92	75.6	31	15.5	1.05	0.45	94.68	-20.57	-177.66	378	B
TKM2xx_KN	SKKS	EQ032081141	42.92	75.6	85	4	1.35	0.18	292.2	-20.13	-65.185	345.3	B
TKM2xx_KN	SKKS	EQ032650445	42.92	75.6	84	17	1.1	0.55	326.1	19.777	-70.673	10	B
TKM2xx_KN	SKKS	EQ051062241	42.92	75.6	-81	3	1.65	0.23	299.7	-17.65	-69.663	118.7	B
TKM2xx_KN	SKKS	EQ051401240	42.92	75.6	45	7	1	0.2	100.3	-24.53	178.84	565.3	B
TKM2xx_KN	SKKS	EQ051631926	42.92	75.6	-65	12	1.15	0.45	225.9	-56.29	-27.075	94.1	B
TKM2xx_KN	SKKS	EQ051941206	42.92	75.6	-80	5	1.8	0.33	300	-17.85	-70.109	79.9	B
TKM2xx_KN	SKKS	EQ052071411	42.92	75.6	-78	9	1.55	0.4	306	-15.35	-72.962	110.5	B
TKM2xx_KN	SKKS	EQ052260239	42.92	75.6	90	6.5	1.75	0.32	296.6	-19.78	-68.98	113.8	B
TKM2xx_KN	SKKS	EQ053211926	42.92	75.6	-86	5	1.6	0.3	292.4	-22.36	-67.895	147	A
TKM2xx_KN	SKKS	EQ053572147	42.92	75.6	-62	5.5	1.8	0.3	322.4	-1.386	-77.517	192.9	B
TKM2xx_KN	SKKS	EQ061971142	42.92	75.6	58	16.5	1.2	0.52	288.5	-28.72	-72.543	10	B
TKM2xx_KN	SKKS	EQ062231430	42.92	75.6	71	21.5	0.75	0.35	356.4	18.541	-101.05	56	A
TKM2xx_KN	SKKS	EQ062370044	42.92	75.6	-88	1.5	2	0.12	288.9	-24.4	-67.028	184	A
TKM2xx_KN	SKKS	EQ062721308	42.92	75.6	-78	6.5	1.25	0.2	313.3	10.876	-61.756	53	B
TKM2xx_KN	SKKS	EQ062731626	42.92	75.6	-71	9	1.45	0.4	306	-15.59	-73.16	107	B
TKM2xx_KN	SKKS	EQ063170126	42.92	75.6	87	3	2.25	0.23	283.2	-26.05	-63.283	572	B
TKM2xx_KN	SKKS	EQ071151334	42.92	75.6	38	11.5	1.15	0.35	99.7	-14.29	166.863	55	B
TKM2xx_KN	SKKS	EQ071262111	42.92	75.6	38	10	0.8	0.2	94.78	-19.4	-179.35	676.4	A
TKM2xx_KN	SKKS	EQ071451747	42.92	75.6	-89	2	2.05	0.17	289.2	-24.22	-67.027	180.5	A
TKM2xx_KN	SKKS	EQ072892105	42.92	75.6	39	10	1.05	0.27	101	-25.78	179.53	509.3	A
TKM2xx_KN	SKKS	EQ073220540	42.92	75.6	-85	2	2.05	0.25	290.4	-22.64	-66.323	246.4	B
TKM2xx_KN	SKKS	EQ080151752	42.92	75.6	37	11	1	0.3	97.11	-21.98	-179.54	597.6	B
TKM2xx_KN	SKKS	EQ082392100	42.92	75.6	-82	17.5	0.55	0.22	314.4	-7.641	-74.377	154	B
TKM2xx_KN	SKKS	EQ082471125	42.92	75.6	86	2.5	1.9	0.2	282.3	-26.74	-63.225	569.6	B
TKM2xx_KN	SKKS	EQ083532119	42.92	75.6	81	4.5	2	0.35	281.2	-32.46	-71.726	18	18

TKM2xx_KN	SKKS	EQ091951838	42.92	75.6	83	3.5	1.8	0.2	292.2	-21.82	-67.09	175.6	B
TKM2xx_KN	SKKS	EQ092302120	42.92	75.6	49	3.5	1.05	0.1	100	-26.06	-178.4	269.8	B
TKM2xx_KN	SKKS	EQ092451800	42.92	75.6	49	7.5	0.85	0.15	103.4	-29.4	-179	257	B
TKM2xx_KN	SKKS	EQ092552006	42.92	75.6	77	5	2	0.35	319	10.709	-67.93	14	B
TKM2xx_KN	SKKS	EQ093170727	42.92	75.6	87	8.5	1.2	0.28	293.5	-17.92	-64.1	608	B
TKM2xx_KN	SKKS	EQ093181944	42.92	75.6	-84	2	1.9	0.2	290.4	-22.97	-66.64	220.4	A
TKM2xx_KN	SKKS	EQ100352020	42.92	75.6	71	9	1.4	0.33	15.62	40.412	-125	23.6	B
TKM2xx_KN	SKKS	EQ100632239	42.92	75.6	90	2	1.9	0.15	293	-22.23	-68.33	114	A
TKM2xx_KN	SKKS	EQ100640919	42.92	75.6	55	14.5	0.65	0.2	274.2	-36.63	-73.22	29.9	B
TKM2xx_KN	SKKS	EQ102951931	42.92	75.6	-89	4	2	0.32	294.7	-20.88	-68.37	132.2	B
TKM2xx_KN	SKKS	EQ110521057	42.92	75.6	45	8	0.9	0.2	102	-26.14	178.39	558.1	A
TKM2xx_KN	SKKS	EQ110921059	42.92	75.6	88	5	1.8	0.3	297	-19.58	-69.07	84.4	B
TKM2xx_KN	SKKS	EQ111081303	42.92	75.6	47	8	1.2	0.25	108.9	-34.34	179.87	86	A
TKM2xx_KN	SKKS	EQ111590306	42.92	75.6	-80	3.5	1.65	0.22	300.2	-17.08	-69.52	145.7	B
TKM2xx_KN	SKKS	EQ111711636	42.92	75.6	-88	6	1.8	0.4	293.6	-21.7	-68.23	128	A
TKM2xx_KN	SKKS	EQ942930115	42.92	75.6	71	6	1.6	0.62	266.9	-39.19	-70.81	161.8	B
TKM2xx_KN	SKKS	EQ943460741	42.92	75.6	-83	7	1.45	0.27	299.8	-17.48	-69.6	148.2	A
TKM2xx_KN	SKKS	EQ943611732	42.92	75.6	50	3.5	1.15	0.1	106.6	-31.97	179.86	212.4	B
TKM2xx_KN	SKKS	EQ952281504	42.92	75.6	49	4	1.05	0.13	106.8	-31.95	179.36	463	A
TKM2xx_KN	SKKS	EQ952571224	42.92	75.6	43	13.5	0.85	0.3	93.04	-17.62	-179	532.6	B
TKM2xx_KN	SKKS	EQ952821343	42.92	75.6	46	12.5	1	0.3	103.2	-21.47	170.18	104.8	B
TKM2xx_KN	SKKS	EQ960821731	42.92	75.6	55	3.5	1.05	0.1	109.3	-35.24	-179.2	33	B
TKM2xx_KN	SKKS	EQ961550815	42.92	75.6	45	16.5	1.05	0.42	102.5	-9.309	157.17	33	B
TKM2xx_KN	SKKS	EQ962400624	42.92	75.6	49	13.5	0.65	0.15	97.78	-22.57	-179.8	574.9	B
TKM2xx_KN	SKKS	EQ963100941	42.92	75.6	46	7	1.05	0.2	105.7	-31.16	180	369.4	A
TKM2xx_KN	SKKS	EQ970801207	42.92	75.6	46	3.5	1.1	0.12	105.9	-31.16	179.62	448.7	A
TKM2xx_KN	SKKS	EQ981901445	42.92	75.6	42	11.5	1	0.28	104.5	-30.49	-179	129.5	A
TKM2xx_KN	SKKS	EQ982060239	42.92	75.6	44	8.5	0.95	0.2	99.18	-13.61	166.87	43.5	B
TKM2xx_KN	SKKS	EQ990611745	42.92	75.6	-87	4.5	1.65	0.3	292.6	-22.72	-68.5	110.8	B
TKM2xx_KN	SKKS	EQ990991216	42.92	75.6	42	11.5	0.95	0.25	102.3	-26.35	178.22	621.2	B
TKM2xx_KN	SKKS	EQ991101904	42.92	75.6	38	6.5	1.3	0.32	105.9	-31.89	-179	95.7	A
TKM2xx_KN	SKKS	EQ991161817	42.92	75.6	-65	17.5	1.1	0.4	322.6	-1.648	-77.78	172.6	B
TKM2xx_KN	SKKS	EQ991991034	42.92	75.6	38	9	1.05	0.32	98.26	-22.55	179.41	590.9	B
TKM2xx_KN	SKKS	EQ992401240	42.92	75.6	-62	8	1.05	0.25	322.5	-1.287	-77.55	196.4	A
TKM2xx_KN	SKKS	EQ992580301	42.92	75.6	-85	1.5	1.65	0.1	293.5	-20.93	-67.28	218	A
TKM2xx_KN	SKKS	EQ993250351	42.92	75.6	-82	3	1.65	0.23	294.1	-21.75	-68.78	101.2	A
TKM2xx_KN	SKS	EQ001252036	42.92	75.6	39	4	0.95	0.13	92.99	-17.91	-178.5	515.8	B
TKM2xx_KN	SKS	EQ001541113	42.92	75.6	71	12	1.65	0.45	18.06	44.513	-130.1	10	B
TKM2xx_KN	SKS	EQ001660215	42.92	75.6	41	6.5	1.35	0.23	101.7	-25.52	178.05	604.6	A
TKM2xx_KN	SKS	EQ001981725	42.92	75.6	32	5.5	1.35	0.25	98.52	-12.4	166.51	33	A
TKM2xx_KN	SKS	EQ002272211	42.92	75.6	33	8.5	1.3	0.47	104.8	-9.377	153.85	10	B
TKM2xx_KN	SKS	EQ002280430	42.92	75.6	38	5.5	1.3	0.3	106.2	-31.51	179.73	357.7	A
TKM2xx_KN	SKS	EQ002461702	42.92	75.6	49	10	0.95	0.23	95.21	-20.07	-179.1	687.6	A
TKM2xx_KN	SKS	EQ002551717	42.92	75.6	10	6	1.85	0.57	88.02	-15.88	-173.7	115.4	B
TKM2xx_KN	SKS	EQ003530119	42.92	75.6	34	8.5	0.95	0.18	96.15	-21.18	-179.1	628.2	B

TKM2xx_KN	SKS	EQ003560241	42.92	75.6	40	21.5	0.75	0.43	101.7	-5.354	154.13	386.7	B
TKM2xx_KN	SKS	EQ010091649	42.92	75.6	41	4.5	1.1	0.17	99.98	-14.93	167.17	103	A
TKM2xx_KN	SKS	EQ011180449	42.92	75.6	38	21	0.55	0.25	92.06	-18.06	-176.9	351.8	B
TKM2xx_KN	SKS	EQ011291738	42.92	75.6	39	11	1.1	0.32	100.5	-10.32	161.23	67.9	A
TKM2xx_KN	SKS	EQ011391736	42.92	75.6	38	4	1.25	0.15	94.01	-19.9	-177.5	368.7	B
TKM2xx_KN	SKS	EQ011400421	42.92	75.6	61	20.5	0.95	0.48	0.05	18.816	-104.4	33	B
TKM2xx_KN	SKS	EQ011461057	42.92	75.6	40	19	0.75	0.35	94.56	-20.29	-177.8	406.5	B
TKM2xx_KN	SKS	EQ011522036	42.92	75.6	41	5	1.35	0.2	102.5	-7.199	154.92	33	B
TKM2xx_KN	SKS	EQ011540241	42.92	75.6	38	6	1.6	0.33	103.5	-29.67	-178.6	178.1	B
TKM2xx_KN	SKS	EQ012171158	42.92	75.6	28	17.5	1.05	0.57	98.37	-10.82	164.95	33	B
TKM2xx_KN	SKS	EQ012221624	42.92	75.6	43	4	1.05	0.15	99.85	-14.7	167.11	82	A
TKM2xx_KN	SKS	EQ012731901	42.92	75.6	38	9	1	0.3	102	-18.42	168.12	33	B
TKM2xx_KN	SKS	EQ012992305	42.92	75.6	55	12	1.05	0.28	102.1	-18.49	168.11	33	B
TKM2xx_KN	SKS	EQ013360247	42.92	75.6	38	5	0.95	0.15	98.66	-12.74	166.66	100.5	A
TKM2xx_KN	SKS	EQ013461253	42.92	75.6	42	6	1.1	0.2	101.4	-17.19	167.72	33	B
TKM2xx_KN	SKS	EQ013572252	42.92	75.6	28	10.5	1.35	0.43	101.1	-9.613	159.53	16	B
TKM2xx_KN	SKS	EQ013611054	42.92	75.6	41	7.5	1	0.17	99.71	-14.65	167.26	153.2	A
TKM2xx_KN	SKS	EQ021682126	42.92	75.6	39	12.5	1.05	0.37	98.74	-12.59	166.38	33	A
TKM2xx_KN	SKS	EQ021800239	42.92	75.6	41	5	1.15	0.18	98.5	-12.4	166.52	33	A
TKM2xx_KN	SKS	EQ021901840	42.92	75.6	61	10.5	1.1	0.25	16.36	43.519	-127.2	10	B
TKM2xx_KN	SKS	EQ022500814	42.92	75.6	39	16.5	0.75	0.3	93.36	-20.28	-176	209.9	B
TKM2xx_KN	SKS	EQ022771905	42.92	75.6	29	5.5	1.35	0.3	95.92	-20.99	-179	621.1	B
TKM2xx_KN	SKS	EQ022951139	42.92	75.6	39	6.5	0.75	0.12	95.21	-20.63	-178.4	549	B
TKM2xx_KN	SKS	EQ030040515	42.92	75.6	43	15.5	1.05	0.37	94.68	-20.57	-177.7	378	B
TKM2xx_KN	SKS	EQ030952203	42.92	75.6	44	10	0.9	0.22	100.5	-16.18	167.89	177.5	B
TKM2xx_KN	SKS	EQ031292026	42.92	75.6	69	8.5	0.9	0.15	207.7	-48.21	32.272	10	A
TKM2xx_KN	SKS	EQ031340603	42.92	75.6	75	20	1.25	0.7	314.9	18.266	-58.63	41.5	B
TKM2xx_KN	SKS	EQ031651828	42.92	75.6	40	6.5	1.3	0.25	101.5	-7.583	156.78	405.8	B
TKM2xx_KN	SKS	EQ032030421	42.92	75.6	28	9.5	1.45	0.5	101	-15.42	166.14	33	B
TKM2xx_KN	SKS	EQ032331212	42.92	75.6	56	18.5	1.1	0.57	125.5	-45.1	167.14	28	B
TKM2xx_KN	SKS	EQ032420005	42.92	75.6	40	11	1.05	0.25	99.84	-14.8	167.24	137	B
TKM2xx_KN	SKS	EQ033101038	42.92	75.6	33	7	1.2	0.27	102.2	-19.26	168.89	113.7	B
TKM2xx_KN	SKS	EQ033561915	42.92	75.6	76	16.5	1.25	0.75	13.75	35.701	-121.1	8.7	B
TKM2xx_KN	SKS	EQ040251143	42.92	75.6	32	18	0.65	0.27	89.17	-16.83	-174.2	129.8	B
TKM2xx_KN	SKS	EQ040671108	42.92	75.6	58	7.5	1.4	0.25	105.9	-32.38	-178.2	7	B
TKM2xx_KN	SKS	EQ041740904	42.92	75.6	39	10	0.9	0.2	97.56	-10.9	166.26	152.8	A
TKM2xx_KN	SKS	EQ050781734	42.92	75.6	35	9.5	1	0.28	97.04	-21.89	-179.5	598.7	B
TKM2xx_KN	SKS	EQ051401240	42.92	75.6	44	4.5	1	0.12	100.3	-24.53	178.84	565.3	B
TKM2xx_KN	SKS	EQ051680621	42.92	75.6	79	16	1.45	0.57	16.71	40.773	-126.6	12	B
TKM2xx_KN	SKS	EQ052590031	42.92	75.6	48	11.5	1.05	0.32	102.3	-5.622	153.59	10.7	A
TKM2xx_KN	SKS	EQ060040832	42.92	75.6	52	9.5	1.4	0.22	7.2	28.164	-112.1	14	B
TKM2xx_KN	SKS	EQ060230602	42.92	75.6	42	8	1.15	0.22	101.5	-17.39	167.72	23	B
TKM2xx_KN	SKS	EQ060570308	42.92	75.6	40	5	1.05	0.15	98.8	-23.61	-180	535.2	B
TKM2xx_KN	SKS	EQ060660628	42.92	75.6	40	6.5	1.15	0.23	99.76	-14.81	167.37	136.2	B
TKM2xx_KN	SKS	EQ061200817	42.92	75.6	47	6.5	0.8	0.12	99.94	-15.1	167.44	127.7	B

TKM2xx_KN	SKS	EQ061530731	42.92	75.6	43	5.5	0.85	0.12	95.58	-20.84	-178.7	591.6	B
TKM2xx_KN	SKS	EQ061602317	42.92	75.6	67	20	0.9	0.57	207.7	-47.75	32.612	22.5	B
TKM2xx_KN	SKS	EQ061991602	42.92	75.6	47	7.5	0.85	0.15	94.77	-20.08	-178.43	587.2	B
TKM2xx_KN	SKS	EQ062192218	42.92	75.6	46	4	1	0.15	100.2	-15.8	167.79	150	A
TKM2xx_KN	SKS	EQ062721308	42.92	75.6	-87	5.5	1.2	0.18	313.3	10.876	-61.756	53	B
TKM2xx_KN	SKS	EQ062881707	42.92	75.6	70	5	1.6	0.3	48.78	19.879	-155.94	39.1	B
TKM2xx_KN	SKS	EQ071151334	42.92	75.6	34	13	1.05	0.42	99.7	-14.29	166.86	55	A
TKM2xx_KN	SKS	EQ071210015	42.92	75.6	34	8.5	1.4	0.38	102.3	-7.124	155.13	9	A
TKM2xx_KN	SKS	EQ071262111	42.92	75.6	40	12.5	0.85	0.25	94.78	-19.4	-179.35	676.4	A
TKM2xx_KN	SKS	EQ071960927	42.92	75.6	32	6	1.3	0.25	99.4	-15.38	168.6	8	B
TKM2xx_KN	SKS	EQ072131708	42.92	75.6	30	12.5	1.15	0.35	100.2	-15.6	167.68	120	A
TKM2xx_KN	SKS	EQ072381237	42.92	75.6	34	10	0.75	0.15	89.8	-17.46	-174.34	127.4	B
TKM2xx_KN	SKS	EQ072780717	42.92	75.6	39	9.5	0.95	0.28	100.5	-25.19	179.46	509.4	A
TKM2xx_KN	SKS	EQ072892105	42.92	75.6	41	7.5	1.05	0.25	101	-25.78	179.53	509.3	A
TKM2xx_KN	SKS	EQ073241252	42.92	75.6	43	11	1.1	0.32	101.8	-6.907	155.67	52.6	B
TKM2xx_KN	SKS	EQ073430728	42.92	75.6	34	19.5	0.9	0.4	99.42	-26	-177.51	152.5	B
TKM2xx_KN	SKS	EQ080390938	42.92	75.6	72	16.5	0.95	0.5	296.9	10.671	-41.899	9	B
TKM2xx_KN	SKS	EQ080721123	42.92	75.6	35	3.5	0.9	0.12	101.1	-16.57	167.34	13	B
TKM2xx_KN	SKS	EQ081001113	42.92	75.6	41	19	1.1	0.5	103	-20.18	168.86	16	B
TKM2xx_KN	SKS	EQ081220457	42.92	75.6	67	9.5	1.15	0.3	102.4	-19.47	168.88	35	B
TKM2xx_KN	SKS	EQ081441935	42.92	75.6	80	9.5	1.2	0.25	289.5	7.313	-34.897	8	B
TKM2xx_KN	SKS	EQ081451324	42.92	75.6	38	8.5	1.25	0.38	101.7	-7.181	156.07	29	B
TKM2xx_KN	SKS	EQ081551620	42.92	75.6	41	7	1.1	0.2	100.6	-10.51	161.27	84	A
TKM2xx_KN	SKS	EQ081850302	42.92	75.6	38	7.5	0.8	0.15	98.47	-23.37	-179.78	581.2	B
TKM2xx_KN	SKS	EQ082480937	42.92	75.6	50	6.5	1.1	0.17	97.93	-12.14	167.1	272	A
TKM2xx_KN	SKS	EQ082520303	42.92	75.6	38	5.5	1.15	0.2	102.6	-19.96	169.11	36	A
TKM2xx_KN	SKS	EQ082531222	42.92	75.6	27	3	1.45	0.23	101.7	-9.272	158.26	12	B
TKM2xx_KN	SKS	EQ083091835	42.92	75.6	41	10	0.8	0.17	100.8	-17.14	168.46	205.7	B
TKM2xx_KN	SKS	EQ083451315	42.92	75.6	49	6.5	0.75	0.12	98.42	-12.34	166.57	51	B
TKM2xx_KN	SKS	EQ090492153	42.92	75.6	40	17.5	0.8	0.28	100	-27.42	-176.33	25	B
TKM2xx_KN	SKS	EQ091081749	42.92	75.6	50	12.5	0.75	0.2	95.25	-20.61	-178.48	566.1	B
TKM2xx_KN	SKS	EQ091160006	42.92	75.6	36	11.5	1.35	0.6	104.1	-30.3	-178.58	131.7	B
TKM2xx_KN	SKS	EQ091440058	42.92	75.6	43	9.5	1.2	0.3	104.7	-31.48	-177.68	4	B
TKM2xx_KN	SKS	EQ091530217	42.92	75.6	28	3.5	1.2	0.2	101.6	-17.76	167.95	15	B
TKM2xx_KN	SKS	EQ092170831	42.92	75.6	53	4.5	1.45	0.3	126.3	-45.55	166.36	10	B
TKM2xx_KN	SKS	EQ092220406	42.92	75.6	38	16	0.8	0.3	98.2	-11.61	166.09	35	B
TKM2xx_KN	SKS	EQ092810828	42.92	75.6	25	7.5	1.2	0.4	99.58	-13.3	165.91	35	B
TKM2xx_KN	SKS	EQ092812116	42.92	75.6	36	12	1	0.33	99.03	-12.91	166.31	35	B
TKM2xx_KN	SKS	EQ093041909	42.92	75.6	47	5.5	1.15	0.15	97.84	-11.38	166.38	133.9	B
TKM2xx_KN	SKS	EQ093260748	42.92	75.6	36	6	0.8	0.1	92.83	-17.79	-178.43	522.6	A
TKM2xx_KN	SKS	EQ100440234	42.92	75.6	28	20.5	1.1	0.6	93.97	-21.9	-174.77	11	B
TKM2xx_KN	SKS	EQ100631402	42.92	75.6	42	19.5	0.9	0.4	98.92	-13.57	167.23	176	A
TKM2xx_KN	SKS	EQ101001654	42.92	75.6	27	16.5	0.9	0.42	93.35	-20.11	-176.22	273.2	B
TKM2xx_KN	SKS	EQ101010940	42.92	75.6	49	5	1	0.15	101	-10.88	161.12	21	A
TKM2xx_KN	SKS	EQ101770530	42.92	75.6	25	12.5	1.15	0.58	100.6	-10.63	161.45	35	B

TKM2xx_KN	SKS	EQ101810431	42.92	75.6	35	15.5	1.1	0.55	99.1	-23.31	179.12	581.4	B
TKM2xx_KN	SKS	EQ102222318	42.92	75.6	37	6.5	1.15	0.23	99.51	-14.46	167.35	191.6	A
TKM2xx_KN	SKS	EQ102470852	42.92	75.6	32	16.5	0.65	0.25	89.49	-17.37	-174	69	B
TKM2xx_KN	SKS	EQ110521057	42.92	75.6	40	16	1.1	0.52	102	-26.14	178.39	558.1	B
TKM2xx_KN	SKS	EQ110931407	42.92	75.6	39	9.5	0.85	0.2	92.8	-17.64	-178.6	551.7	A
TKM2xx_KN	SKS	EQ111081303	42.92	75.6	37	5.5	1.4	0.35	108.9	-34.34	179.87	86	A
TKM2xx_KN	SKS	EQ111130416	42.92	75.6	42	5	1.2	0.18	100.6	-10.38	161.2	79	A
TKM2xx_KN	SKS	EQ111720204	42.92	75.6	34	7.5	1	0.25	98.46	-11.48	165.55	14	B
TKM2xx_KN	SKS	EQ942741635	42.92	75.6	35	7.5	1.15	0.23	101.8	-17.75	167.68	16.6	B
TKM2xx_KN	SKS	EQ950842244	42.92	75.6	36	6.5	1.2	0.25	97.72	-11	166.12	79.4	B
TKM2xx_KN	SKS	EQ951252248	42.92	75.6	40	5	1.25	0.2	101.7	-18.55	168.78	116.7	B
TKM2xx_KN	SKS	EQ952091429	42.92	75.6	38	12	0.65	0.17	93.74	-21.18	-175.4	92.4	B
TKM2xx_KN	SKS	EQ952281504	42.92	75.6	48	7	1.3	0.28	106.8	-31.95	179.36	463	B
TKM2xx_KN	SKS	EQ952571224	42.92	75.6	51	20	0.95	0.53	93.04	-17.62	-179	532.6	B
TKM2xx_KN	SKS	EQ952590103	42.92	75.6	38	9	1.2	0.32	101.7	-6.323	155.21	151	B
TKM2xx_KN	SKS	EQ952791139	42.92	75.6	38	18.5	0.6	0.3	93.05	-20	-175.9	197.8	B
TKM2xx_KN	SKS	EQ952821343	42.92	75.6	41	10.5	1	0.33	103.2	-21.47	170.18	104.8	B
TKM2xx_KN	SKS	EQ952870800	42.92	75.6	47	10	0.85	0.2	99.21	-25.76	-177.5	147.9	B
TKM2xx_KN	SKS	EQ960771448	42.92	75.6	40	6	1.05	0.18	99.73	-14.71	167.3	164.4	A
TKM2xx_KN	SKS	EQ960912341	42.92	75.6	43	5.5	1.05	0.15	98.18	-11.18	165.64	33	A
TKM2xx_KN	SKS	EQ961550815	42.92	75.6	45	12.5	1	0.3	102.5	-9.309	157.17	33	B
TKM2xx_KN	SKS	EQ961620104	42.92	75.6	38	12	0.95	0.3	98.91	-13.48	167.13	200.1	A
TKM2xx_KN	SKS	EQ962280733	42.92	75.6	43	10	1.1	0.28	98.97	-13.3	166.84	33	B
TKM2xx_KN	SKS	EQ962441558	42.92	75.6	33	7.5	1.15	0.3	99.88	-14.93	167.33	125.8	B
TKM2xx_KN	SKS	EQ962581310	42.92	75.6	45	7.5	1.1	0.2	97.72	-10.88	165.99	72.7	A
TKM2xx_KN	SKS	EQ963100941	42.92	75.6	45	5.5	1.25	0.2	105.7	-31.16	180	369.4	B
TKM2xx_KN	SKS	EQ970801207	42.92	75.6	47	7	1.25	0.25	105.9	-31.16	179.62	448.7	B
TKM2xx_KN	SKS	EQ971121651	42.92	75.6	37	10.5	0.85	0.25	99.17	-13.22	166.45	33	B
TKM2xx_KN	SKS	EQ973600534	42.92	75.6	46	14	0.85	0.25	97.51	-22.34	-179.7	588.4	B
TKM2xx_KN	SKS	EQ980380320	42.92	75.6	47	10.5	1.05	0.28	99.78	-14.8	167.32	129.1	B
TKM2xx_KN	SKS	EQ981971156	42.92	75.6	25	15	1.1	0.52	97.73	-11.04	166.16	110.2	B
TKM2xx_KN	SKS	EQ982001558	42.92	75.6	37	20	0.75	0.48	94.58	-21.84	-175.8	72.1	B
TKM2xx_KN	SKS	EQ982060239	42.92	75.6	44	4	0.95	0.1	99.18	-13.61	166.87	43.5	B
TKM2xx_KN	SKS	EQ982480516	42.92	75.6	43	7.5	1.1	0.2	101.9	-6.646	155.21	37.3	B
TKM2xx_KN	SKS	EQ983181503	42.92	75.6	47	7	1.05	0.18	99.87	-14.95	167.37	115.1	B
TKM2xx_KN	SKS	EQ983291805	42.92	75.6	33	10	0.95	0.25	100.5	-7.859	158.62	47.9	B
TKM2xx_KN	SKS	EQ983610038	42.92	75.6	23	11	1	0.3	94.77	-21.63	-176.4	144.3	A
TKM2xx_KN	SKS	EQ990372147	42.92	75.6	22	8.5	1.25	0.53	98.73	-12.85	166.7	90.1	B
TKM2xx_KN	SKS	EQ990991216	42.92	75.6	43	6.5	1.25	0.22	102.3	-26.35	178.22	621.2	B
TKM2xx_KN	SKS	EQ991101904	42.92	75.6	43	16.5	1.05	0.45	105.9	-31.89	-179	95.7	B
TKM2xx_KN	SKS	EQ991991034	42.92	75.6	43	6.5	1	0.17	98.26	-22.55	179.41	590.9	B
TKM2xx_KN	SKS	EQ992140947	42.92	75.6	41	9.5	1.1	0.28	98.19	-12.55	167.18	251.2	B
TKM2xx_KN	SKS	EQ992370706	42.92	75.6	41	11.5	1.45	0.47	101.6	-19.06	169.61	263.4	A
TKM2xx_KN	SKS	EQ992601454	42.92	75.6	32	20.5	1.05	0.57	99.08	-13.79	167.24	196.8	B
TKM2xx_KN	SKS	EQ993632253	42.92	75.6	28	11	1.2	0.4	98.37	-11.17	165.33	33	B

TKMxxx_KN	PKS	EQ921951811	42.86	75.32	90	5	1.15	0.18	319.3	-3.919	-76.602	96.5	A
TKMxxx_KN	SKKS	EQ921770630	42.86	75.32	36	12.5	1.1	0.47	101	-28.31	-176.72	20	B
TKMxxx_KN	SKS	EQ920961146	42.86	75.32	32	22.5	0.95	0.82	98.11	-11.94	166.324	48.5	B
TKMxxx_KN	SKS	EQ921170741	42.86	75.32	76	10	1.35	0.35	15.11	40.432	-124.57	19.6	A
TKMxxx_KN	SKS	EQ921171118	42.86	75.32	77	9	1.6	0.43	15.12	40.383	-124.56	22.6	B
TKMxxx_KN	SKS	EQ921371458	42.86	75.32	39	11.5	1.05	0.4	101.8	-19.12	169.079	164.5	B
TKMxxx_KN	SKS	EQ921401442	42.86	75.32	35	14.5	1	0.4	101	-9.463	159.316	32.7	B
TKMxxx_KN	SKS	EQ921480513	42.86	75.32	28	12	1.05	0.4	98.22	-11.12	165.239	18.8	A
TLGxxx_KZ	SKKS	EQ001140927	43.25	77.22	61	18.5	0.5	0.28	281.8	-28.31	-62.99	608.5	B
TLGxxx_KZ	SKKS	EQ011801835	43.25	77.22	-86	9	0.65	0.2	296.1	-19.52	-66.254	273.9	B
TLGxxx_KZ	SKKS	EQ020162309	43.25	77.22	50	16.5	1.7	0.82	349.2	15.502	-93.133	80.2	B
TLGxxx_KZ	SKKS	EQ022311108	43.25	77.22	44	16	1	0.48	100.9	-23.88	178.495	675.4	B
TLGxxx_KZ	SKKS	EQ963100941	43.23	77.22	73	3.5	1.05	0.07	106.5	-31.16	179.998	369.4	A
TLGxxx_KZ	SKKS	EQ970801207	43.23	77.22	71	15.5	0.95	0.35	106.7	-31.16	179.624	448.7	B
TLGxxx_KZ	SKKS	EQ971420750	43.23	77.22	23	10	1.3	0.42	358.7	18.684	-101.6	70	B
TLGxxx_KZ	SKS	EQ001271344	43.25	77.22	86	6.5	1.9	0.73	99.44	-11.3	165.432	12	A
TLGxxx_KZ	SKS	EQ010091649	43.25	77.22	89	2	1.65	0.3	101	-14.93	167.17	103	A
TLGxxx_KZ	SKS	EQ012720240	43.25	77.22	89	7	1.95	1	103.1	-18.5	168.159	33	B
TLGxxx_KZ	SKS	EQ020021722	43.25	77.22	-89	5.5	1.95	0.55	102.6	-17.6	167.856	21	B
TLGxxx_KZ	SKS	EQ022311108	43.25	77.22	89	1	1.7	0.15	100.9	-23.88	178.495	675.4	B
TLGxxx_KZ	SKS	EQ951801224	43.23	77.22	-84	4.5	1.45	0.52	103.1	-19.54	169.287	139.4	B
TLGxxx_KZ	SKS	EQ962151255	43.23	77.22	76	18	1.05	0.45	101.7	-10.77	161.445	33	B
TLGxxx_KZ	SKS	EQ981971156	43.25	77.22	86	2	1.75	0.25	98.77	-11.04	166.16	110.2	A
TLGxxx_KZ	SKS	EQ981991641	43.25	77.22	87	5	1.65	0.4	102.9	-18.37	168.173	33	B
TLGxxx_KZ	SKS	EQ982001558	43.25	77.22	84	2	1.95	0.28	95.46	-21.84	-175.79	72.1	A
TLGxxx_KZ	SKS	EQ983610038	43.25	77.22	87	18.5	1.8	0.82	95.66	-21.63	-176.38	144.3	B
TLGxxx_KZ	SKS	EQ990372147	43.25	77.22	88	4	1.9	0.42	99.75	-12.85	166.697	90.1	A
TLGxxx_KZ	SKS	EQ992601454	43.25	77.22	82	7	1.35	0.33	100.1	-13.79	167.238	196.8	B
TOKLxx_KR	SKKS	EQ111081303	41.94	72.87	81	19.5	1.1	0.47	108	-34.34	179.874	86	B
UCHxxx_KN	PKS	EQ011031533	42.23	74.51	72	11.5	0.55	0.12	220.7	-59.72	-25.586	26	B
UCHxxx_KN	PKS	EQ012991859	42.23	74.51	64	4	1.65	0.22	301.7	-14.77	-70.497	212.4	B
UCHxxx_KN	PKS	EQ022852009	42.23	74.51	60	5	0.9	0.17	309	-8.295	-71.738	534.3	A
UCHxxx_KN	PKS	EQ031172257	42.23	74.51	64	11	0.75	0.22	308.9	-8.195	-71.592	559.9	B
UCHxxx_KN	PKS	EQ032602134	42.23	74.51	46	11	0.8	0.25	292	-21.47	-68.325	127.1	B
UCHxxx_KN	PKS	EQ033030600	42.23	74.51	63	19.5	0.7	0.28	219.3	-60.71	-25.152	10	B
UCHxxx_KN	PKS	EQ051011454	42.23	74.51	67	3	1.2	0.18	317.1	-7.293	-77.886	129.9	B
UCHxxx_KN	PKS	EQ052690155	42.23	74.51	58	4.5	1.35	0.57	316.5	-5.678	-76.398	115	B
UCHxxx_KN	PKS	EQ080411222	42.23	74.51	59	16	0.7	0.25	219.3	-60.8	-25.586	8	A
UCHxxx_KN	PKS	EQ101260242	42.23	74.51	59	17	0.45	0.17	298.3	-18.06	-70.547	37	A
UCHxxx_KN	PKS	EQ101432246	42.23	74.51	54	16	0.9	0.47	307	-13.93	-74.352	101.4	A
UCHxxx_KN	PKS	EQ101441618	42.23	74.51	59	4	0.95	0.15	308.9	-8.087	-71.558	581.2	A
UCHxxx_KN	PKS	EQ101930011	42.23	74.51	76	21	0.5	0.35	291	-22.15	-68.216	115	A
UCHxxx_KN	PKS	EQ951220606	42.23	74.51	67	3	0.85	0.12	318.4	-3.792	-76.917	97	A
UCHxxx_KN	PKS	EQ952662231	42.23	74.51	62	9	1.55	0.6	315.3	-10.68	-78.581	59.9	B
UCHxxx_KN	PKS	EQ960222319	42.23	74.51	52	6.5	1	0.3	219.6	-60.61	-25.901	10.1	B

UCHxxx_KN	SKKS	EQ000261326	42.23	74.51	38	14.5	0.75	0.23	89.02	89.02	-17.272	-174.002	33	B
UCHxxx_KN	SKKS	EQ000890713	42.23	74.51	46	6	1.35	0.2	100.5	10.46	-28.127	-176.309	10	B
UCHxxx_KN	SKKS	EQ001140927	42.23	74.51	17	7	0.9	0.42	278.1	8.12	-28.307	-62.99	608.5	B
UCHxxx_KN	SKKS	EQ001252036	42.23	74.51	48	13	0.7	0.2	92.58	2.58	-17.914	-178.522	515.8	B
UCHxxx_KN	SKKS	EQ002160109	42.23	74.51	72	10	1.1	0.3	97.67	7.68	-12.037	166.448	33	B
UCHxxx_KN	SKKS	EQ002700617	42.23	74.51	52	9.5	0.65	0.15	88.89	88.89	-17.178	-173.927	56	A
UCHxxx_KN	SKKS	EQ003201236	42.23	74.51	62	5	1.35	0.15	102.7	12.69	-21.664	170.439	200	B
UCHxxx_KN	SKKS	EQ003530119	42.23	74.51	61	13	0.9	0.22	95.78	5.78	-21.178	-179.124	628.2	B
UCHxxx_KN	SKKS	EQ010972317	42.23	74.51	53	6.5	1.55	0.22	99.92	9.92	-27.554	-176.336	33	B
UCHxxx_KN	SKKS	EQ011391736	42.23	74.51	62	5.5	1.15	0.18	93.64	3.64	-19.903	-177.515	368.7	B
UCHxxx_KN	SKKS	EQ011540241	42.23	74.51	66	8	1.1	0.25	103.3	13.29	-29.666	-178.633	178.1	B
UCHxxx_KN	SKKS	EQ011801835	42.23	74.51	38	5.5	0.7	0.18	292.1	22.12	-19.522	-66.254	273.9	A
UCHxxx_KN	SKKS	EQ012221624	42.23	74.51	69	4.5	1.2	0.2	99.28	9.28	-14.7	167.106	82	B
UCHxxx_KN	SKKS	EQ012901129	42.23	74.51	-79	19	0.8	0.33	319.7	49.75	19.354	-64.932	33	B
UCHxxx_KN	SKKS	EQ013560040	42.23	74.51	65	6	1.15	0.17	97.21	7.21	-10.91	165.863	74.2	B
UCHxxx_KN	SKKS	EQ021670655	42.23	74.51	61	10.5	0.85	0.2	92.65	2.65	-17.866	-178.696	569	B
UCHxxx_KN	SKKS	EQ022500814	42.23	74.51	69	6.5	1.2	0.27	93.01	3.01	-20.275	-176.036	209.9	A
UCHxxx_KN	SKKS	EQ022951139	42.23	74.51	53	17	0.7	0.35	94.84	4.84	-20.633	-178.391	549	B
UCHxxx_KN	SKKS	EQ030040515	42.23	74.51	54	12.5	0.9	0.23	94.31	4.32	-20.57	-177.661	378	A
UCHxxx_KN	SKKS	EQ030651024	42.23	74.51	31	8	1.7	0.42	95.87	5.88	-23.604	-175.813	10	A
UCHxxx_KN	SKKS	EQ031171603	42.23	74.51	64	5.5	1.25	0.17	102.5	12.51	-20.944	169.773	77.4	A
UCHxxx_KN	SKKS	EQ032731408	42.23	74.51	51	13	1.3	0.4	103.4	13.35	-30.437	-177.398	10	A
UCHxxx_KN	SKKS	EQ033101038	42.23	74.51	72	4.5	1.85	0.28	101.7	11.71	-19.262	168.892	113.7	B
UCHxxx_KN	SKKS	EQ040251143	42.23	74.51	45	18	0.45	0.32	88.77	88.77	-16.83	-174.196	129.8	B
UCHxxx_KN	SKKS	EQ040671108	42.23	74.51	44	9	1.65	0.48	105.7	15.72	-32.381	-178.191	7	B
UCHxxx_KN	SKKS	EQ040962034	42.23	74.51	25	14.5	1.65	0.7	91.78	1.78	-20.436	-173.936	8	B
UCHxxx_KN	SKKS	EQ043282104	42.23	74.51	60	6.5	0.85	0.12	99.7	9.71	-24.294	178.99	532.3	A
UCHxxx_KN	SKKS	EQ051401240	42.23	74.51	58	4	0.95	0.1	100	10.01	-24.529	178.84	565.3	A
UCHxxx_KN	SKKS	EQ060570308	42.23	74.51	56	6	1.05	0.15	98.47	8.47	-23.607	-179.989	535.2	A
UCHxxx_KN	SKKS	EQ061530731	42.23	74.51	48	9.5	1.05	0.22	95.21	5.22	-20.837	-178.701	591.6	A
UCHxxx_KN	SKKS	EQ062650232	42.23	74.51	32	5	1.5	0.33	280.2	10.2	-26.868	-63.149	598.3	B
UCHxxx_KN	SKKS	EQ062761803	42.23	74.51	46	13.5	1.05	0.3	101.3	11.31	-18.84	169.001	161	B
UCHxxx_KN	SKKS	EQ063170126	42.23	74.51	36	16.5	0.6	0.22	281.4	11.39	-26.052	-63.283	572	A
UCHxxx_KN	SKKS	EQ070921202	42.23	74.51	46	10	1.15	0.25	101	11.02	-8.706	157.62	14	B
UCHxxx_KN	SKKS	EQ070941100	42.23	74.51	48	2.5	2	0.15	102.9	12.91	-20.715	168.828	13	B
UCHxxx_KN	SKKS	EQ071151334	42.23	74.51	70	17	1.15	0.45	99.12	9.12	-14.285	166.863	55	B
UCHxxx_KN	SKKS	EQ071262111	42.23	74.51	50	9	0.65	0.13	94.39	4.39	-19.401	-179.354	676.4	B
UCHxxx_KN	SKKS	EQ072381237	42.23	74.51	46	15	0.7	0.25	89.41	89.41	-17.457	-174.335	127.4	A
UCHxxx_KN	SKKS	EQ072892105	42.23	74.51	56	8	1.05	0.2	100.7	10.71	-25.775	179.53	509.3	A
UCHxxx_KN	SKKS	EQ081050945	42.23	74.51	-79	9.5	0.75	0.18	225.8	45.8	-56.022	-28.035	140.2	A
UCHxxx_KN	SKKS	EQ082012239	42.23	74.51	42	17	0.8	0.35	91.29	1.29	-17.337	-177.312	391	B
UCHxxx_KN	SKKS	EQ082961255	42.23	74.51	24	7	1.2	0.27	90.92	0.92	-18.414	-175.351	233.4	B
UCHxxx_KN	SKKS	EQ100100027	42.23	74.51	75	3	1.45	0.15	14.56	14.57	40.652	-124.692	29.3	B
UCHxxx_KN	SKKS	EQ101530149	42.23	74.51	-69	18	0.95	0.3	223.8	43.77	-57.369	-26.446	127.4	B
UCHxxx_KN	SKKS	EQ103620834	42.23	74.51	64	14.5	1.3	0.42	98.17	8.18	-23.407	-179.802	551	B

UCHxxx_KN	SKKS	EQ110050646	42.23	74.51	66	14.5	0.75	0.28	102.44	-22.26	171.631	112.2	A
UCHxxx_KN	SKKS	EQ110521057	42.23	74.51	63	5	1.15	0.15	101.72	-26.142	178.394	558.1	A
UCHxxx_KN	SKKS	EQ110651432	42.23	74.51	68	19.5	0.85	0.35	225.08	-56.422	-27.063	87.7	A
UCHxxx_KN	SKKS	EQ110931407	42.23	74.51	54	7	0.7	0.1	92.39	-17.642	-178.59	551.7	A
UCHxxx_KN	SKKS	EQ111081303	42.23	74.51	67	14	1.35	0.4	108.71	-34.336	179.874	86	A
UCHxxx_KN	SKKS	EQ111901354	42.23	74.51	74	11	1.7	0.52	102.16	-29.39	-177.12	19	B
UCHxxx_KN	SKKS	EQ942062200	42.23	74.51	76	15.5	0.65	0.17	225.22	-56.362	-27.365	81.3	A
UCHxxx_KN	SKKS	EQ952821343	42.23	74.51	67	14.5	1.15	0.43	102.69	-21.474	170.176	104.8	B
UCHxxx_KN	SKKS	EQ952870800	42.23	74.51	62	5.5	1.4	0.23	98.93	-25.758	-177.52	147.9	B
UCHxxx_KN	SKKS	EQ961550815	42.23	74.51	61	12.5	1.15	0.33	101.76	-9.309	157.17	33	B
UCHxxx_KN	SKKS	EQ963100941	42.23	74.51	65	4	1.25	0.15	105.5	-31.16	179.998	369.4	A
UCHxxx_KN	SKKS	EQ981040341	42.23	74.51	56	8.5	1.1	0.23	98.59	-23.821	-179.87	498.6	B
UCHxxx_KN	SKKS	EQ981901445	42.23	74.51	64	9	1.25	0.25	104.29	-30.487	-178.99	129.5	A
UCHxxx_KN	SKKS	EQ982001558	42.23	74.51	70	14	0.9	0.3	94.25	-21.836	-175.79	72.1	B
UCHxxx_KN	SKKS	EQ990530100	42.23	74.51	62	12.5	1.1	0.3	102.98	-21.452	169.682	33	B
UCHxxx_KN	SKKS	EQ990652028	42.23	74.51	42	5	1	0.12	96.48	-21.734	-179.47	602.7	B
UCHxxx_KN	SKKS	EQ990991216	42.23	74.51	62	4.5	1.1	0.12	102.01	-26.354	178.221	621.2	B
UCHxxx_KN	SKKS	EQ991020941	42.23	74.51	51	11	0.9	0.22	102.52	-20.036	168.575	42.8	B
UCHxxx_KN	SKKS	EQ991031038	42.23	74.51	26	9	1.7	0.5	94.3	-21.422	-176.46	164.2	A
UCHxxx_KN	SKKS	EQ991101904	42.23	74.51	63	3.5	1.35	0.1	105.69	-31.888	-179.04	95.7	A
UCHxxx_KN	SKKS	EQ991991034	42.23	74.51	53	9	0.9	0.18	97.9	-22.546	179.412	590.9	B
UCHxxx_KN	SKKS	EQ992401240	42.23	74.51	86	19	0.3	0.1	320.82	-1.287	-77.549	196.4	A
UCHxxx_KN	SKKS	EQ992580301	42.23	74.51	34	10.5	0.7	0.25	291.52	-20.934	-67.275	218	B
UCHxxx_KN	SKKS	EQ993250351	42.23	74.51	33	2	1.45	0.25	292.08	-21.75	-68.78	101.2	A
UCHxxx_KN	SKS	EQ000050740	42.23	74.51	70	11.5	0.95	0.28	97.87	-11.371	165.378	33	B
UCHxxx_KN	SKS	EQ001091728	42.23	74.51	65	9	0.8	0.17	93.63	-20.664	-176.47	220.7	A
UCHxxx_KN	SKS	EQ001252036	42.23	74.51	65	12.5	0.65	0.2	92.58	-17.914	-178.52	515.8	B
UCHxxx_KN	SKS	EQ001271344	42.23	74.51	67	7	1	0.17	97.78	-11.295	165.432	12	A
UCHxxx_KN	SKS	EQ001541113	42.23	74.51	81	14	1.35	0.4	17.32	44.513	-130.08	10	B
UCHxxx_KN	SKS	EQ001660215	42.23	74.51	69	4.5	1.2	0.15	101.36	-25.516	178.046	604.6	B
UCHxxx_KN	SKS	EQ002551717	42.23	74.51	51	13.5	0.7	0.23	87.6	-15.877	-173.69	115.4	A
UCHxxx_KN	SKS	EQ002700617	42.23	74.51	43	10.5	0.55	0.1	88.89	-17.178	-173.93	56	A
UCHxxx_KN	SKS	EQ003140545	42.23	74.51	55	11	1	0.25	87.03	-15.425	-173.42	53.1	B
UCHxxx_KN	SKS	EQ003530119	42.23	74.51	62	5.5	1.05	0.17	95.78	-21.178	-179.12	628.2	B
UCHxxx_KN	SKS	EQ003560241	42.23	74.51	64	6.5	1.15	0.2	100.92	-5.354	154.133	386.7	B
UCHxxx_KN	SKS	EQ010022317	42.23	74.51	47	6.5	1.1	0.17	99.64	-11.16	162.44	33	B
UCHxxx_KN	SKS	EQ010091649	42.23	74.51	69	7.5	0.95	0.2	99.41	-14.928	167.17	103	A
UCHxxx_KN	SKS	EQ011291738	42.23	74.51	70	7.5	1.25	0.25	99.81	-10.318	161.232	67.9	B
UCHxxx_KN	SKS	EQ011391736	42.23	74.51	70	7	0.85	0.2	93.64	-19.903	-177.52	368.7	A
UCHxxx_KN	SKS	EQ011461057	42.23	74.51	53	18.5	0.75	0.4	94.19	-20.292	-177.84	406.5	B
UCHxxx_KN	SKS	EQ011492337	42.23	74.51	59	11.5	1.2	0.33	101.52	-7.022	155.037	14	B
UCHxxx_KN	SKS	EQ011522036	42.23	74.51	57	14	0.8	0.28	101.73	-7.199	154.923	33	B
UCHxxx_KN	SKS	EQ011540241	42.23	74.51	67	7	1.35	0.25	103.29	-29.666	-178.63	178.1	A
UCHxxx_KN	SKS	EQ011850706	42.23	74.51	64	8.5	0.75	0.2	94.73	-21.725	-176.71	184.6	A
UCHxxx_KN	SKS	EQ012221624	42.23	74.51	73	5	1.45	0.3	99.28	-14.7	167.106	82	B

UCHxxx_KN	SKS	EQ012940029	42.23	74.51	52	13.5	1.8	0.95	112	-37.137	178.98	18	A
UCHxxx_KN	SKS	EQ013360247	42.23	74.51	68	9.5	0.9	0.22	98.07	-12.738	166.66	100.5	B
UCHxxx_KN	SKS	EQ013461253	42.23	74.51	72	7.5	1	0.23	100.8	-17.189	167.72	33	A
UCHxxx_KN	SKS	EQ013572252	42.23	74.51	61	8	1.05	0.17	100.4	-9.613	159.53	16	A
UCHxxx_KN	SKS	EQ013611054	42.23	74.51	70	7.5	1.05	0.2	99.14	-14.647	167.26	153.2	B
UCHxxx_KN	SKS	EQ020021722	42.23	74.51	66	9.5	1.05	0.25	101.1	-17.6	167.86	21	A
UCHxxx_KN	SKS	EQ020980348	42.23	74.51	71	7.5	1.55	0.42	143	-51.068	139.27	10	B
UCHxxx_KN	SKS	EQ021131505	42.23	74.51	70	9	1.3	0.45	97.72	-12.518	166.94	217.3	B
UCHxxx_KN	SKS	EQ021682126	42.23	74.51	67	11.5	1	0.25	98.14	-12.592	166.38	33	B
UCHxxx_KN	SKS	EQ021800239	42.23	74.51	70	11	1.1	0.32	97.9	-12.4	166.52	33	A
UCHxxx_KN	SKS	EQ021951635	42.23	74.51	53	8.5	1.5	0.33	101.1	-8.203	156.98	17.9	B
UCHxxx_KN	SKS	EQ022500814	42.23	74.51	59	11.5	0.65	0.15	93.01	-20.275	-176.04	209.9	A
UCHxxx_KN	SKS	EQ022951139	42.23	74.51	70	16.5	0.8	0.3	94.84	-20.633	-178.39	549	B
UCHxxx_KN	SKS	EQ030040515	42.23	74.51	59	9.5	0.95	0.2	94.31	-20.57	-177.66	378	A
UCHxxx_KN	SKS	EQ030952203	42.23	74.51	69	11.5	0.8	0.25	99.92	-16.18	167.89	177.5	A
UCHxxx_KN	SKS	EQ031171603	42.23	74.51	68	12.5	1.15	0.3	102.5	-20.944	169.77	77.4	B
UCHxxx_KN	SKS	EQ031292026	42.23	74.51	76	20	0.9	0.52	207	-48.209	32.272	10	B
UCHxxx_KN	SKS	EQ031332121	42.23	74.51	70	14.5	1.1	0.4	100.9	-17.287	167.74	33	B
UCHxxx_KN	SKS	EQ031651828	42.23	74.51	53	5.5	1	0.12	100.8	-7.583	156.78	405.8	A
UCHxxx_KN	SKS	EQ032030421	42.23	74.51	65	11.5	1.3	0.33	100.5	-15.416	166.14	33	B
UCHxxx_KN	SKS	EQ032731408	42.23	74.51	67	5.5	1.55	0.2	103.4	-30.437	-177.4	10	A
UCHxxx_KN	SKS	EQ032791829	42.23	74.51	67	19	0.85	0.38	98.04	-10.752	164.42	33	B
UCHxxx_KN	SKS	EQ033101038	42.23	74.51	65	10.5	1.2	0.25	101.7	-19.262	168.89	113.7	A
UCHxxx_KN	SKS	EQ040251143	42.23	74.51	55	20.5	0.6	0.38	88.77	-16.83	-174.2	129.8	B
UCHxxx_KN	SKS	EQ040510558	42.23	74.51	62	17.5	0.6	0.2	97.35	-11.608	166.45	84	B
UCHxxx_KN	SKS	EQ040962034	42.23	74.51	49	17	0.65	0.38	91.78	-20.436	-173.94	8	B
UCHxxx_KN	SKS	EQ041001523	42.23	74.51	58	14.5	0.7	0.18	98.05	-13.174	167.2	228.4	A
UCHxxx_KN	SKS	EQ041740904	42.23	74.51	64	10.5	0.9	0.25	96.94	-10.902	166.26	152.8	A
UCHxxx_KN	SKS	EQ043161734	42.23	74.51	57	19	0.9	0.35	99.77	-11.128	162.21	10	B
UCHxxx_KN	SKS	EQ043282104	42.23	74.51	66	8.5	1	0.25	99.7	-24.294	178.99	532.3	A
UCHxxx_KN	SKS	EQ050391448	42.23	74.51	66	4	0.85	0.1	98.84	-14.252	167.26	206.3	B
UCHxxx_KN	SKS	EQ051011708	42.23	74.51	36	20.5	1.65	1	102.8	-21.975	170.61	68	B
UCHxxx_KN	SKS	EQ051322052	42.23	74.51	62	6.5	1.35	0.2	101.2	-7.501	156.11	10	B
UCHxxx_KN	SKS	EQ051401240	42.23	74.51	69	9.5	1.05	0.27	100	-24.529	178.84	565.3	B
UCHxxx_KN	SKS	EQ060570308	42.23	74.51	70	6	0.95	0.17	98.47	-23.607	-179.99	535.2	A
UCHxxx_KN	SKS	EQ060660628	42.23	74.51	69	7	1.05	0.2	99.19	-14.805	167.37	136.2	A
UCHxxx_KN	SKS	EQ060712054	42.23	74.51	70	19.5	1.15	0.6	101	-5.075	153.66	47.3	B
UCHxxx_KN	SKS	EQ061200817	42.23	74.51	53	8	1.15	0.18	99.37	-15.103	167.44	127.7	A
UCHxxx_KN	SKS	EQ061530731	42.23	74.51	61	9.5	0.9	0.23	95.21	-20.837	-178.7	591.6	A
UCHxxx_KN	SKS	EQ061602317	42.23	74.51	67	17.5	0.75	0.4	207	-47.75	32.612	22.5	B
UCHxxx_KN	SKS	EQ061991602	42.23	74.51	65	19.5	0.7	1.6	94.39	-20.084	-178.43	587.2	A
UCHxxx_KN	SKS	EQ061991948	42.23	74.51	57	11	1.15	0.35	99.7	-3.908	154.37	473.8	B
UCHxxx_KN	SKS	EQ062192218	42.23	74.51	71	3.5	0.9	0.1	99.69	-15.798	167.79	150	A
UCHxxx_KN	SKS	EQ062761803	42.23	74.51	61	9	0.95	0.18	101.3	-18.84	169	161	B
UCHxxx_KN	SKS	EQ062881707	42.23	74.51	83	6.5	1.7	0.4	48.04	19.879	-155.94	39.1	B

UCHxxx_KN	SKS	EQ062911045	42.23	74.51	40	18	1.1	0.5	99.45	-15.053	167.27	115	A
UCHxxx_KN	SKS	EQ070231716	42.23	74.51	67	9.5	1.05	0.27	98.09	-13.1	167.05	188.1	B
UCHxxx_KN	SKS	EQ070940634	42.23	74.51	55	8	1.15	0.23	101.08	-7.76	156.49	17	A
UCHxxx_KN	SKS	EQ070941100	42.23	74.51	51	11	1.4	0.35	102.91	-20.715	168.83	13	B
UCHxxx_KN	SKS	EQ071151334	42.23	74.51	69	5.5	1.1	0.17	99.12	-14.285	166.86	55	A
UCHxxx_KN	SKS	EQ071210015	42.23	74.51	65	5	1.4	0.18	101.53	-7.124	155.13	9	A
UCHxxx_KN	SKS	EQ071262111	42.23	74.51	66	7.5	0.7	0.12	94.39	-19.401	-179.4	676.4	A
UCHxxx_KN	SKS	EQ072381237	42.23	74.51	55	11	0.8	0.17	89.41	-17.457	-174.3	127.4	A
UCHxxx_KN	SKS	EQ072450105	42.23	74.51	70	15	1	0.4	97.8	-11.61	165.76	35	B
UCHxxx_KN	SKS	EQ072882128	42.23	74.51	66	7	1.45	0.25	124.95	-44.793	167.46	19	B
UCHxxx_KN	SKS	EQ072892105	42.23	74.51	66	19.5	0.95	0.43	100.71	-25.775	179.53	509.3	A
UCHxxx_KN	SKS	EQ080390938	42.23	74.51	36	2	1.75	0.28	296	10.671	-41.9	9	A
UCHxxx_KN	SKS	EQ080521416	42.23	74.51	66	7.5	1.7	0.35	7.11	41.153	-114.9	6.7	B
UCHxxx_KN	SKS	EQ080721123	42.23	74.51	64	7	1.15	0.17	100.57	-16.567	167.34	13	A
UCHxxx_KN	SKS	EQ081001246	42.23	74.51	75	21	1.15	0.5	102.35	-20.071	168.89	33	B
UCHxxx_KN	SKS	EQ081172334	42.23	74.51	68	13	1.75	0.68	130.56	-49.091	164.12	10	B
UCHxxx_KN	SKS	EQ081191833	42.23	74.51	59	13	1.1	0.33	102.21	-19.941	168.95	32	B
UCHxxx_KN	SKS	EQ081400316	42.23	74.51	82	14	0.95	0.3	207.37	-47.781	31.965	10	B
UCHxxx_KN	SKS	EQ081551620	42.23	74.51	68	6.5	0.95	0.15	99.92	-10.509	161.27	84	A
UCHxxx_KN	SKS	EQ081620413	42.23	74.51	59	7	1.25	0.22	101.42	-18.098	167.88	35	B
UCHxxx_KN	SKS	EQ082010927	42.23	74.51	57	3	1.05	0.07	98.2	-11.041	164.49	11	A
UCHxxx_KN	SKS	EQ082012239	42.23	74.51	69	18	0.6	0.25	91.29	-17.337	-177.3	391	A
UCHxxx_KN	SKS	EQ100090551	42.23	74.51	45	7	1.35	0.2	101.33	-9.131	157.63	12	B
UCHxxx_KN	SKS	EQ100440234	42.23	74.51	44	12	0.85	0.18	93.65	-21.902	-174.8	11	B
UCHxxx_KN	SKS	EQ100631402	42.23	74.51	59	9.5	0.9	0.18	98.33	-13.571	167.23	176	A
UCHxxx_KN	SKS	EQ101001654	42.23	74.51	62	18	1.1	0.6	92.98	-20.114	-176.2	273.2	B
UCHxxx_KN	SKS	EQ101010219	42.23	74.51	59	8	0.9	0.18	98.34	-12.973	166.52	10	B
UCHxxx_KN	SKS	EQ101770530	42.23	74.51	67	10.5	0.95	0.23	99.9	-10.627	161.45	35	A
UCHxxx_KN	SKS	EQ101830604	42.23	74.51	71	6.5	1.05	0.2	98.87	-13.643	166.49	29	A
UCHxxx_KN	SKS	EQ103620834	42.23	74.51	76	9.5	1.25	0.38	98.17	-23.407	-179.8	551	B
UCHxxx_KN	SKS	EQ110091003	42.23	74.51	53	14	1	0.35	101.99	-19.155	168.31	22	B
UCHxxx_KN	SKS	EQ110261703	42.23	74.51	62	8.5	0.9	0.15	96.99	-11.013	166.3	148.5	B
UCHxxx_KN	SKS	EQ110521057	42.23	74.51	63	8	1.1	0.2	101.72	-26.142	178.39	558.1	A
UCHxxx_KN	SKS	EQ110931407	42.23	74.51	59	10.5	0.55	0.17	92.39	-17.642	-178.6	551.7	A
UCHxxx_KN	SKS	EQ111081303	42.23	74.51	66	8.5	1.3	0.25	108.71	-34.336	179.87	86	A
UCHxxx_KN	SKS	EQ111130416	42.23	74.51	70	4.5	1.15	0.15	99.87	-10.375	161.2	79	A
UCHxxx_KN	SKS	EQ111211612	42.23	74.51	53	7	1.15	0.23	100.92	-6.954	155.86	54.7	B
UCHxxx_KN	SKS	EQ111241613	42.23	74.51	44	2.5	1.9	0.15	94.73	-20.396	-178.5	583.6	B
UCHxxx_KN	SKS	EQ111720204	42.23	74.51	41	18.5	0.55	0.22	97.84	-11.479	165.55	14	B
UCHxxx_KN	SKS	EQ941102335	42.23	74.51	55	16.5	0.65	0.25	92.4	-17.8	-178.4	543.1	B
UCHxxx_KN	SKS	EQ942551223	42.23	74.51	81	3	1.55	0.2	11.13	38.808	-119.6	1.7	B
UCHxxx_KN	SKS	EQ942741635	42.23	74.51	62	12	1.1	0.32	101.27	-17.745	167.68	16.6	A
UCHxxx_KN	SKS	EQ943240257	42.23	74.51	60	9.5	1	0.25	100.43	-9.794	159.71	23.9	B
UCHxxx_KN	SKS	EQ950842244	42.23	74.51	61	16	0.8	0.28	97.1	-10.998	166.12	79.4	B
UCHxxx_KN	SKS	EQ951070114	42.23	74.51	53	7.5	1.35	0.25	101.56	-8.527	156.61	11.5	B

UCHxxx_KN	SKS	EQ951252248	42.23	74.5	65	9	1.45	0.35	101.22	-18.55	168.779	116.7	B
UCHxxx_KN	SKS	EQ951490729	42.23	74.5	72	6	1	0.18	97.93	-10.25	164.001	26.4	B
UCHxxx_KN	SKS	EQ951960135	42.23	74.5	47	19.5	0.75	0.45	93.65	-19.9	-177.55	358	A
UCHxxx_KN	SKS	EQ952571224	42.23	74.5	48	12	0.6	0.12	92.62	-17.62	-178.97	532.6	A
UCHxxx_KN	SKS	EQ952791139	42.23	74.5	66	9.5	0.7	0.15	92.69	-20	-175.92	197.8	A
UCHxxx_KN	SKS	EQ952821343	42.23	74.5	69	8.5	1.05	0.2	102.69	-21.47	170.176	104.8	B
UCHxxx_KN	SKS	EQ960110351	42.23	74.5	59	4	1.6	0.17	100.1	-8.428	158.693	93.1	A
UCHxxx_KN	SKS	EQ960912341	42.23	74.5	63	4	1	0.12	97.55	-11.18	165.644	33	B
UCHxxx_KN	SKS	EQ960930304	42.23	74.5	47	6.5	0.95	0.17	97.56	-11.22	165.671	33	B
UCHxxx_KN	SKS	EQ961550815	42.23	74.5	60	5.5	1.15	0.15	101.76	-9.309	157.17	33	B
UCHxxx_KN	SKS	EQ962151255	42.23	74.5	65	5.5	1	0.13	100	-10.77	161.445	33	A
UCHxxx_KN	SKS	EQ962581310	42.23	74.5	68	15	1.05	0.47	97.1	-10.88	165.991	72.7	A
UCHxxx_KN	SKS	EQ963100941	42.23	74.5	62	5	1.1	0.15	105.5	-31.16	179.998	369.4	B
UCHxxx_KN	SKS	EQ980380320	42.23	74.5	76	14	0.75	0.23	99.21	-14.8	167.323	129.1	B
UCHxxx_KN	SKS	EQ980881948	42.23	74.5	76	4.5	1.3	0.27	92.64	-17.55	-179.09	537.2	B
UCHxxx_KN	SKS	EQ981901445	42.23	74.5	56	14.5	1.3	0.5	104.29	-30.49	-178.99	129.5	A
UCHxxx_KN	SKS	EQ981971156	42.23	74.5	62	10	1	0.2	97.11	-11.04	166.16	110.2	A
UCHxxx_KN	SKS	EQ981991641	42.23	74.5	72	9.5	1.2	0.3	101.45	-18.37	168.173	33	B
UCHxxx_KN	SKS	EQ982001558	42.23	74.5	46	12	0.7	0.18	94.25	-21.84	-175.79	72.1	A
UCHxxx_KN	SKS	EQ983610038	42.23	74.5	46	16.5	0.95	0.48	94.44	-21.63	-176.38	144.3	A
UCHxxx_KN	SKS	EQ990372147	42.23	74.5	61	10	1.05	0.2	98.13	-12.85	166.697	90.1	A
UCHxxx_KN	SKS	EQ990991216	42.23	74.5	73	7.5	1	0.2	102.01	-26.35	178.221	621.2	B
UCHxxx_KN	SKS	EQ991031038	42.23	74.5	52	11	0.8	0.15	94.3	-21.42	-176.46	164.2	A
UCHxxx_KN	SKS	EQ991101904	42.23	74.5	57	6.5	1.55	0.25	105.69	-31.89	-179.04	95.7	B
UCHxxx_KN	SKS	EQ991900504	42.23	74.5	54	10	1.25	0.28	101.21	-6.514	154.944	29	B
UCHxxx_KN	SKS	EQ992601454	42.23	74.5	65	19	0.85	0.4	98.5	-13.79	167.238	196.8	A
UCHxxx_KN	SKS	EQ993632253	42.23	74.5	52	4.5	0.85	0.1	97.75	-11.17	165.33	33	A
ULHLxx_KN	PKS	EQ062650232	42.25	76.2	89	2	1.2	0.17	281.71	-26.87	-63.149	598.3	B
ULHLxx_KN	PKS	EQ082862055	42.25	76.2	-85	3.5	0.75	0.12	291.91	-20.12	-64.971	352.7	A
ULHLxx_KN	PKS	EQ101260242	42.25	76.2	80	17	0.55	0.2	300.29	-18.06	-70.547	37	B
ULHLxx_KN	SKKS	EQ001680755	42.25	76.2	82	19.5	1.05	0.4	276.42	-33.88	-70.088	120.2	B
ULHLxx_KN	SKKS	EQ020870456	42.25	76.2	-84	12.5	0.95	0.38	293.57	-21.66	-68.329	125.1	B
ULHLxx_KN	SKKS	EQ053211926	42.25	76.2	-83	6.5	1.4	0.35	292.23	-22.36	-67.895	147	A
ULHLxx_KN	SKKS	EQ062370044	42.25	76.2	-83	7	1.35	0.47	288.69	-24.4	-67.028	184	A
ULHLxx_KN	SKKS	EQ093181944	42.25	76.2	-79	3	1.9	0.5	290.17	-22.97	-66.641	220.4	B
ULHLxx_KN	SKKS	EQ970230215	42.25	76.2	-80	4	1.6	0.38	290.44	-22	-65.719	276.2	B
ULHLxx_KN	SKKS	EQ991101904	42.25	76.2	32	7.5	1.4	0.48	106.62	-31.89	-179.04	95.7	A
ULHLxx_KN	SKKS	EQ992580301	42.25	76.2	-72	1	1.9	0.2	293.33	-20.93	-67.275	218	B
ULHLxx_KN	SKS	EQ000722221	42.25	76.2	68	3.5	1.65	0.48	347.06	14.975	-92.444	62	B
ULHLxx_KN	SKS	EQ001091728	42.25	76.2	26	15	1	0.43	94.73	-20.66	-176.47	220.7	B
ULHLxx_KN	SKS	EQ001252036	42.25	76.2	22	8	0.65	0.15	93.7	-17.91	-178.52	515.8	A
ULHLxx_KN	SKS	EQ002461702	42.25	76.2	24	2.5	1.1	0.12	95.92	-20.07	-179.14	687.6	A
ULHLxx_KN	SKS	EQ002551717	42.25	76.2	33	13	0.55	0.12	88.77	-15.88	-173.69	115.4	A
ULHLxx_KN	SKS	EQ002700617	42.25	76.2	45	18.5	0.35	0.33	90.04	-17.18	-173.93	56	B
ULHLxx_KN	SKS	EQ010091649	42.25	76.2	19	2	1.3	0.2	100.52	-14.93	167.17	103	A

ULHLxx_KN	SKS	EQ011291738	42.25	76.24	19	4.5	1.6	0.53	100.95	-10.318	161.232	67.9	A
ULHLxx_KN	SKS	EQ011391736	42.25	76.24	39	7.5	0.75	0.12	94.74	-19.903	-177.515	368.7	B
ULHLxx_KN	SKS	EQ011540241	42.25	76.24	32	8	1.1	0.32	104.26	-29.666	-178.633	178.1	B
ULHLxx_KN	SKS	EQ011850706	42.25	76.24	24	3	0.8	0.12	95.82	-21.725	-176.705	184.6	B
ULHLxx_KN	SKS	EQ012002012	42.25	76.24	36	18	0.8	0.3	90.37	-16.971	-174.676	226.6	B
ULHLxx_KN	SKS	EQ012221624	42.25	76.24	21	3	1.3	0.3	100.39	-14.7	167.106	82	B
ULHLxx_KN	SKS	EQ013360247	42.25	76.24	19	3.5	1.2	0.25	99.19	-12.738	166.664	100.5	B
ULHLxx_KN	SKS	EQ013611054	42.25	76.24	21	2.5	1.5	0.25	100.25	-14.647	167.262	153.2	A
ULHLxx_KN	SKS	EQ021682126	42.25	76.24	16	5.5	1.4	0.58	99.26	-12.592	166.383	33	B
ULHLxx_KN	SKS	EQ022500814	42.25	76.24	18	4	0.95	0.25	94.11	-20.275	-176.036	209.9	B
ULHLxx_KN	SKS	EQ022951139	42.25	76.24	22	3.5	1	0.18	95.93	-20.633	-178.391	549	A
ULHLxx_KN	SKS	EQ030952203	42.25	76.24	22	4.5	1.35	0.4	101.02	-16.18	167.889	177.5	B
ULHLxx_KN	SKS	EQ031292026	42.25	76.24	42	8	1.15	0.4	207.97	-48.209	32.272	10	B
ULHLxx_KN	SKS	EQ031651828	42.25	76.24	20	5	1.25	0.48	101.92	-7.583	156.782	405.8	B
ULHLxx_KN	SKS	EQ032080204	42.25	76.24	21	7	0.9	0.22	95.17	-21.08	-176.585	212.9	A
ULHLxx_KN	SKS	EQ032420005	42.25	76.24	20	16.5	0.95	0.43	100.38	-14.796	167.238	137	B
ULHLxx_KN	SKS	EQ041740904	42.25	76.24	18	3.5	1.5	0.35	98.07	-10.902	166.259	152.8	B
ULHLxx_KN	SKS	EQ043282104	42.25	76.24	29	10	1	0.33	100.74	-24.294	178.99	532.3	B
ULHLxx_KN	SKS	EQ050391448	42.25	76.24	24	4	1.4	0.3	99.95	-14.252	167.259	206.3	B
ULHLxx_KN	SKS	EQ050781734	42.25	76.24	21	7	0.95	0.3	97.75	-21.893	-179.547	598.7	A
ULHLxx_KN	SKS	EQ051401240	42.25	76.24	30	5.5	0.95	0.2	101.04	-24.529	178.84	565.3	A
ULHLxx_KN	SKS	EQ060022213	42.25	76.24	23	5.5	0.95	0.22	95.18	-19.926	-178.178	582.9	A
ULHLxx_KN	SKS	EQ060230602	42.25	76.24	23	4	1.05	0.28	102.07	-17.391	167.715	23	B
ULHLxx_KN	SKS	EQ060570308	42.25	76.24	27	5	1	0.23	99.52	-23.607	-179.989	535.2	A
ULHLxx_KN	SKS	EQ060660628	42.25	76.24	22	4.5	1.25	0.32	100.3	-14.805	167.368	136.2	A
ULHLxx_KN	SKS	EQ061530731	42.25	76.24	24	3.5	1.05	0.17	96.3	-20.837	-178.701	591.6	A
ULHLxx_KN	SKS	EQ061991602	42.25	76.24	18	5.5	1.1	0.32	95.48	-20.084	-178.434	587.2	B
ULHLxx_KN	SKS	EQ062192218	42.25	76.24	27	1.5	1.15	0.1	100.79	-15.798	167.789	150	B
ULHLxx_KN	SKS	EQ062721308	42.25	76.24	-65	12.5	0.75	0.25	313.7	10.876	-61.756	53	A
ULHLxx_KN	SKS	EQ062950855	42.25	76.24	58	4.5	1.5	0.28	166.31	-45.727	95.987	10	B
ULHLxx_KN	SKS	EQ070231716	42.25	76.24	27	4.5	1.2	0.25	99.21	-13.1	167.054	188.1	B
ULHLxx_KN	SKS	EQ071262111	42.25	76.24	24	2.5	1.05	0.13	95.49	-19.401	-179.354	676.4	A
ULHLxx_KN	SKS	EQ080721123	42.25	76.24	21	2.5	1.1	0.23	101.67	-16.567	167.335	13	B
ULHLxx_KN	SKS	EQ081620413	42.25	76.24	22	2.5	1.4	0.33	102.51	-18.098	167.88	35	A
ULHLxx_KN	SKS	EQ081850302	42.25	76.24	25	10.5	1	0.5	99.18	-23.37	-179.778	581.2	B
ULHLxx_KN	SKS	EQ082012239	42.25	76.24	16	13.5	1	0.53	92.42	-17.337	-177.312	391	A
ULHLxx_KN	SKS	EQ082450400	42.25	76.24	25	3	0.95	0.15	99.68	-25.387	-177.636	171.1	B
ULHLxx_KN	SKS	EQ082520303	42.25	76.24	24	3	1.3	0.35	103.21	-19.964	169.108	36	B
ULHLxx_KN	SKS	EQ083091835	42.25	76.24	20	3.5	1.4	0.38	101.4	-17.135	168.458	205.7	B
ULHLxx_KN	SKS	EQ083441728	42.25	76.24	19	1.5	1.7	0.32	100.65	-15.929	168.173	224.1	A
ULHLxx_KN	SKS	EQ093260748	42.25	76.24	18	2.5	1.2	0.15	93.53	-17.794	-178.425	522.6	A
ULHLxx_KN	SKS	EQ101001654	42.25	76.24	21	8.5	1.05	0.35	94.09	-20.114	-176.223	273.2	B
ULHLxx_KN	SKS	EQ110521057	42.25	76.24	28	3	1.15	0.18	102.73	-26.142	178.394	558.1	A
ULHLxx_KN	SKS	EQ110931407	42.25	76.24	18	3	1	0.18	93.51	-17.642	-178.585	551.7	A
ULHLxx_KN	SKS	EQ951801224	42.25	76.24	24	2	1.2	0.17	102.76	-19.544	169.287	139.4	A

ULHLxx_KN	SKS	EQ952091429	42.25	76.24	19	4	0.95	0.2	94.5	-21.18	-175.39	92.4	A
ULHLxx_KN	SKS	EQ952791139	42.25	76.24	19	4.5	0.85	0.22	93.8	-20	-175.92	197.8	A
ULHLxx_KN	SKS	EQ952870800	42.25	76.24	37	9.5	0.75	0.15	99.96	-25.76	-177.52	147.9	A
ULHLxx_KN	SKS	EQ961620104	42.25	76.24	21	6.5	1.2	0.38	99.45	-13.48	167.13	200.1	B
ULHLxx_KN	SKS	EQ962802013	42.25	76.24	75	14	1.2	0.42	15.62	49.05	-127.88	10	B
ULHLxx_KN	SKS	EQ981991641	42.25	76.24	34	15.5	0.8	0.33	102.5	-18.37	168.173	33	A
ULHLxx_KN	SKS	EQ982001558	42.25	76.24	19	9	0.95	0.33	95.34	-21.84	-175.79	72.1	A
ULHLxx_KN	SKS	EQ982060239	42.25	76.24	19	3.5	1.4	0.35	99.72	-13.61	166.867	43.5	B
ULHLxx_KN	SKS	EQ982641209	42.25	76.24	34	9.5	1.1	0.32	99.74	-13.57	166.791	33	B
ULHLxx_KN	SKS	EQ982730303	42.25	76.24	26	2.5	1.45	0.2	101.9	-17.2	167.832	33	B
ULHLxx_KN	SKS	EQ983610038	42.25	76.24	23	5.5	1.1	0.23	95.53	-21.63	-176.38	144.3	A
ULHLxx_KN	SKS	EQ990991216	42.25	76.24	26	3.5	1.65	0.33	103	-26.35	178.221	621.2	B
ULHLxx_KN	SKS	EQ991031038	42.25	76.24	19	3	1	0.2	95.39	-21.42	-176.46	164.2	A
ULHLxx_KN	SKS	EQ991671835	42.25	76.24	45	9	1.6	0.33	89.54	-17.04	-173.36	75.3	B
ULHLxx_KN	SKS	EQ991991034	42.25	76.24	24	10	0.9	0.45	98.96	-22.55	179.412	590.9	B
ULHLxx_KN	SKS	EQ992140947	42.25	76.24	19	9	1.3	0.65	98.71	-12.55	167.175	251.2	B
ULHLxx_KN	SKS	EQ992601454	42.25	76.24	16	6.5	1.25	0.5	99.61	-13.79	167.238	196.8	A
USPxxx_KN	PKS	EQ033030600	43.27	74.5	-69	6.5	1	0.25	219.9	-60.71	-25.152	10	B
USPxxx_KN	PKS	EQ042552152	43.27	74.5	-58	2.5	1.1	0.2	223.4	-57.98	-25.342	63.9	B
USPxxx_KN	PKS	EQ043170636	43.27	74.5	58	5	0.95	0.12	281.9	-26.71	-63.319	568.7	B
USPxxx_KN	PKS	EQ050801223	43.27	74.5	50	6.5	1	0.18	284.2	-24.98	-63.47	579.1	A
USPxxx_KN	PKS	EQ062321334	43.27	74.5	-74	11	0.85	0.25	221.1	-60.91	-34.057	10	B
USPxxx_KN	PKS	EQ062650232	43.27	74.5	50	6.5	0.95	0.17	281.5	-26.87	-63.149	598.3	B
USPxxx_KN	PKS	EQ062731626	43.27	74.5	53	7.5	0.95	0.28	305	-15.59	-73.16	107	B
USPxxx_KN	PKS	EQ082471125	43.27	74.5	59	8	0.85	0.18	281.8	-26.74	-63.225	569.6	A
USPxxx_KN	PKS	EQ082862055	43.27	74.5	54	12	0.95	0.3	291.3	-20.12	-64.971	352.7	B
USPxxx_KN	PKS	EQ090591433	43.27	74.5	-72	5.5	0.75	0.15	220.1	-60.53	-24.796	15	A
USPxxx_KN	PKS	EQ092881748	43.27	74.5	53	3	1.1	0.1	357.7	3.272	-103.82	10	A
USPxxx_KN	PKS	EQ100581545	43.27	74.5	57	9.5	0.75	0.15	286.3	-24.87	-65.602	10	B
USPxxx_KN	PKS	EQ101260242	43.27	74.5	57	6.5	0.7	0.15	299.4	-18.06	-70.547	37	A
USPxxx_KN	PKS	EQ101930011	43.27	74.5	57	15.5	0.85	0.28	292.3	-22.15	-68.216	115	B
USPxxx_KN	PKS	EQ110010956	43.27	74.5	47	7	0.85	0.15	281.6	-26.8	-63.136	576.8	B
USPxxx_KN	PKS	EQ941671841	43.27	74.5	64	6.5	0.9	0.15	302	-15.25	-70.294	199.5	B
USPxxx_KN	SKKS	EQ001140927	43.27	74.5	72	3	0.9	0.1	279.5	-28.31	-62.99	608.5	A
USPxxx_KN	SKKS	EQ001141701	43.27	74.5	75	2.5	0.95	0.1	279.3	-28.38	-62.943	609.8	A
USPxxx_KN	SKKS	EQ001252036	43.27	74.5	72	3.5	1.1	0.17	92.1	-17.91	-178.52	515.8	B
USPxxx_KN	SKKS	EQ001331843	43.27	74.5	89	11	1.7	0.55	288.8	-23.55	-66.452	225	B
USPxxx_KN	SKKS	EQ001660215	43.27	74.5	74	6	1.2	0.25	100.9	-25.52	178.046	604.6	B
USPxxx_KN	SKKS	EQ001680755	43.27	74.5	70	17	1	0.53	276.8	-33.88	-70.088	120.2	B
USPxxx_KN	SKKS	EQ002221141	43.27	74.5	46	10	1.4	0.3	356.7	18.2	-102.48	45.8	A
USPxxx_KN	SKKS	EQ002280430	43.27	74.5	75	2.5	1.55	0.15	105.4	-31.51	179.725	357.7	A
USPxxx_KN	SKKS	EQ003530119	43.27	74.5	45	17.5	0.6	0.2	95.27	-21.18	-179.12	628.2	B
USPxxx_KN	SKKS	EQ010741302	43.27	74.5	76	5	1.15	0.2	280.8	-32.32	-71.492	37	A
USPxxx_KN	SKKS	EQ011540241	43.27	74.5	67	4.5	1.4	0.18	102.7	-29.67	-178.63	178.1	A
USPxxx_KN	SKKS	EQ011801835	43.27	74.5	-84	14.5	0.85	0.38	293.2	-19.52	-66.254	273.9	A

USPxxx_KN	SKKS	EQ011850706	43.27	74.5	76	3.5	1.5	0.28	94.17	-21.725	-176.71	184.6	B
USPxxx_KN	SKKS	EQ013321432	43.27	74.5	48	8	1.35	0.3	346.13	15.571	-93.106	84.9	B
USPxxx_KN	SKKS	EQ020162309	43.27	74.5	45	20.5	0.85	0.57	346.15	15.502	-93.133	80.2	B
USPxxx_KN	SKKS	EQ020980348	43.27	74.5	85	15	1.15	0.38	142.74	-51.068	139.269	10	B
USPxxx_KN	SKKS	EQ031171603	43.27	74.5	75	8	1.4	0.33	102.18	-20.944	169.773	77.4	B
USPxxx_KN	SKKS	EQ033101038	43.27	74.5	64	8	1.2	0.25	101.41	-19.262	168.892	113.7	B
USPxxx_KN	SKKS	EQ043282104	43.27	74.5	74	8.5	1.2	0.3	99.19	-24.294	178.99	532.3	B
USPxxx_KN	SKKS	EQ050781734	43.27	74.5	67	18	0.85	0.4	96.16	-21.893	-179.55	598.7	B
USPxxx_KN	SKKS	EQ051011708	43.27	74.5	78	2	1.55	0.13	102.48	-21.975	170.612	68	A
USPxxx_KN	SKKS	EQ051401240	43.27	74.5	63	9.5	1.25	0.3	99.49	-24.529	178.84	565.3	B
USPxxx_KN	SKKS	EQ051922306	43.27	74.5	57	10	1.5	0.3	98.75	-27.001	-176.32	10	B
USPxxx_KN	SKKS	EQ053211926	43.27	74.5	-83	6	1.1	0.4	291.68	-22.361	-67.895	147	A
USPxxx_KN	SKKS	EQ060570308	43.27	74.5	73	2.5	1.25	0.12	97.94	-23.607	-179.99	535.2	B
USPxxx_KN	SKKS	EQ060660628	43.27	74.5	58	7	1.1	0.18	98.97	-14.805	167.368	136.2	B
USPxxx_KN	SKKS	EQ062231430	43.27	74.5	37	4.5	1.1	0.12	355.2	18.541	-101.05	56	B
USPxxx_KN	SKKS	EQ062370044	43.27	74.5	-86	14.5	1.2	0.62	288.28	-24.403	-67.028	184	A
USPxxx_KN	SKKS	EQ063170126	43.27	74.5	82	4.5	1.05	0.18	282.68	-26.052	-63.283	572	B
USPxxx_KN	SKKS	EQ070300454	43.27	74.5	-76	7.5	1.35	0.22	142.53	-54.74	146.298	11	B
USPxxx_KN	SKKS	EQ070921202	43.27	74.5	69	20.5	1.25	0.55	101	-8.706	157.62	14	B
USPxxx_KN	SKKS	EQ070941100	43.27	74.5	64	9	1.35	0.25	102.6	-20.715	168.828	13	B
USPxxx_KN	SKKS	EQ071262111	43.27	74.5	66	6	0.9	0.17	93.91	-19.401	-179.35	676.4	B
USPxxx_KN	SKKS	EQ072571151	43.27	74.5	49	4	1.45	0.15	98.18	-23.645	179.68	552.4	B
USPxxx_KN	SKKS	EQ072780717	43.27	74.5	74	2.5	1.65	0.15	99.69	-25.189	179.459	509.4	B
USPxxx_KN	SKKS	EQ072892105	43.27	74.5	69	2.5	1.5	0.1	100.17	-25.775	179.53	509.3	A
USPxxx_KN	SKKS	EQ073220540	43.27	74.5	80	16.5	0.6	0.22	289.75	-22.643	-66.323	246.4	A
USPxxx_KN	SKKS	EQ073430728	43.27	74.5	68	6	1.2	0.17	98.54	-25.996	-177.51	152.5	B
USPxxx_KN	SKKS	EQ080151752	43.27	74.5	66	11	1.2	0.4	96.24	-21.984	-179.54	597.6	B
USPxxx_KN	SKKS	EQ080431250	43.27	74.5	54	8	1.35	0.32	347.6	16.357	-94.304	83	B
USPxxx_KN	SKKS	EQ081001246	43.27	74.5	77	3	1.7	0.2	102.05	-20.071	168.892	33	B
USPxxx_KN	SKKS	EQ081050945	43.27	74.5	-62	19.5	0.45	0.25	226.44	-56.022	-28.035	140.2	B
USPxxx_KN	SKKS	EQ082012239	43.27	74.5	68	19.5	0.9	0.38	90.8	-17.337	-177.31	391	A
USPxxx_KN	SKKS	EQ082471125	43.27	74.5	79	7.5	0.85	0.22	281.75	-26.736	-63.225	569.6	A
USPxxx_KN	SKKS	EQ083091835	43.27	74.5	75	4.5	1.25	0.2	100.04	-17.135	168.458	205.7	B
USPxxx_KN	SKKS	EQ083532119	43.27	74.5	75	3	1.15	0.15	280.82	-32.458	-71.726	18	B
USPxxx_KN	SKKS	EQ100591125	43.27	74.5	76	3	1.45	0.2	276.22	-34.903	-71.617	46	B
USPxxx_KN	SKKS	EQ100632239	43.27	74.5	90	10	1.3	0.37	292.29	-22.227	-68.328	114	A
USPxxx_KN	SKKS	EQ110521057	43.27	74.5	73	3.5	1.5	0.17	101.19	-26.142	178.394	558.1	B
USPxxx_KN	SKKS	EQ110931407	43.27	74.5	71	4.5	0.95	0.15	91.92	-17.642	-178.59	551.7	B
USPxxx_KN	SKKS	EQ111081303	43.27	74.5	76	8.5	1.65	0.4	108.07	-34.336	179.874	86	A
USPxxx_KN	SKKS	EQ111590306	43.27	74.5	-80	10	0.9	0.25	299.3	-17.083	-69.518	145.7	B
USPxxx_KN	SKKS	EQ921770630	43.27	74.5	73	7	1.7	0.35	100.24	-28.314	-176.72	20	B
USPxxx_KN	SKKS	EQ940902240	43.27	74.5	70	10.5	0.95	0.28	96.3	-22.057	-179.53	579.8	B
USPxxx_KN	SKKS	EQ951801224	43.27	74.5	73	8	1.5	0.32	101.38	-19.544	169.287	139.4	A
USPxxx_KN	SKKS	EQ951931546	43.27	74.5	76	15.5	1.5	0.5	103.37	-23.26	170.865	11.4	B
USPxxx_KN	SKKS	EQ952171942	43.27	74.5	70	11.5	1.05	0.37	93.14	-16.255	177.893	33	B

USPxxx_KN	SKKS	EQ952281504	43.27	74.5	73	2	1.35	0.1	106.01	-31.95	179.362	463	B
USPxxx_KN	SKKS	EQ960821731	43.27	74.5	74	3.5	1.5	0.15	108.49	-35.241	-179.21	33	B
USPxxx_KN	SKKS	EQ961300436	43.27	74.5	74	6	1.3	0.23	105.95	-32.611	-179.38	76.5	B
USPxxx_KN	SKKS	EQ990991216	43.27	74.5	74	2.5	1.35	0.12	101.49	-26.354	178.221	621.2	B
USPxxx_KN	SKKS	EQ991101904	43.27	74.5	77	3	1.75	0.17	105.05	-31.888	-179.04	95.7	A
USPxxx_KN	SKKS	EQ991252241	43.27	74.5	16	4	1.3	0.17	347.63	14.364	-94.673	33	B
USPxxx_KN	SKKS	EQ991451642	43.27	74.5	80	18	0.8	0.35	283.47	-27.931	-66.934	169.3	B
USPxxx_KN	SKKS	EQ992580301	43.27	74.5	-85	14	0.85	0.38	292.71	-20.934	-67.275	218	B
USPxxx_KN	SKS	EQ001252036	43.27	74.5	70	3	1.15	0.15	92.1	-17.914	-178.52	515.8	B
USPxxx_KN	SKS	EQ001271344	43.27	74.5	70	11	1.15	0.33	97.62	-11.295	165.432	12	B
USPxxx_KN	SKS	EQ001660215	43.27	74.5	63	18.5	1.2	0.42	100.85	-25.516	178.046	604.6	B
USPxxx_KN	SKS	EQ001981725	43.27	74.5	66	7	1.25	0.25	97.73	-12.404	166.509	33	B
USPxxx_KN	SKS	EQ002220008	43.27	74.5	81	11.5	1.2	0.45	99.24	-15.693	167.986	33	A
USPxxx_KN	SKS	EQ002280430	43.27	74.5	67	4.5	1.65	0.2	105.38	-31.511	179.725	357.7	A
USPxxx_KN	SKS	EQ002551717	43.27	74.5	62	9.5	0.85	0.18	87.08	-15.877	-173.69	115.4	A
USPxxx_KN	SKS	EQ002700617	43.27	74.5	63	13.5	0.85	0.32	88.35	-17.178	-173.93	56	B
USPxxx_KN	SKS	EQ002781658	43.27	74.5	43	20	0.9	0.62	99.74	-15.421	166.91	23	A
USPxxx_KN	SKS	EQ003301646	43.27	74.5	68	5.5	1.2	0.17	101.4	-5.425	153.605	33	B
USPxxx_KN	SKS	EQ003530119	43.27	74.5	63	6.5	1.55	0.27	95.27	-21.178	-179.12	628.2	B
USPxxx_KN	SKS	EQ003560241	43.27	74.5	70	10	1.45	0.45	100.98	-5.354	154.133	386.7	B
USPxxx_KN	SKS	EQ010091649	43.27	74.5	70	2.5	1.3	0.13	99.19	-14.928	167.17	103	A
USPxxx_KN	SKS	EQ011291738	43.27	74.5	71	3	1.5	0.15	99.72	-10.318	161.232	67.9	A
USPxxx_KN	SKS	EQ011391736	43.27	74.5	63	6.5	1.45	0.35	93.12	-19.903	-177.52	368.7	B
USPxxx_KN	SKS	EQ011400421	43.27	74.5	62	7	1.1	0.2	358.87	18.816	-104.45	33	B
USPxxx_KN	SKS	EQ011461057	43.27	74.5	54	7	1.15	0.17	93.67	-20.292	-177.84	406.5	B
USPxxx_KN	SKS	EQ011540241	43.27	74.5	68	9.5	1.7	0.4	102.67	-29.666	-178.63	178.1	A
USPxxx_KN	SKS	EQ011850706	43.27	74.5	69	5.5	1.3	0.23	94.17	-21.725	-176.71	184.6	A
USPxxx_KN	SKS	EQ012221624	43.27	74.5	65	8.5	1.2	0.25	99.06	-14.7	167.106	82	B
USPxxx_KN	SKS	EQ012731901	43.27	74.5	73	4.5	1.85	0.3	101.25	-18.419	168.121	33	B
USPxxx_KN	SKS	EQ012750048	43.27	74.5	60	17	1	0.33	87.43	-16.183	-173.82	106.9	B
USPxxx_KN	SKS	EQ013321432	43.27	74.5	59	3.5	1.35	0.23	346.13	15.571	-93.106	84.9	B
USPxxx_KN	SKS	EQ013360247	43.27	74.5	65	10.5	1.3	0.35	97.88	-12.738	166.664	100.5	B
USPxxx_KN	SKS	EQ013572252	43.27	74.5	72	18.5	1.1	0.45	100.36	-9.613	159.53	16	B
USPxxx_KN	SKS	EQ013611054	43.27	74.5	71	2.5	1.3	0.1	98.92	-14.647	167.262	153.2	B
USPxxx_KN	SKS	EQ020162309	43.27	74.5	56	9.5	1.35	0.47	346.15	15.502	-93.133	80.2	B
USPxxx_KN	SKS	EQ020980348	43.27	74.5	-83	12	1.05	0.3	142.74	-51.068	139.269	10	A
USPxxx_KN	SKS	EQ021012156	43.27	74.5	68	3	1.35	0.12	98.44	-14.392	167.687	10	A
USPxxx_KN	SKS	EQ021682126	43.27	74.5	66	4.5	1.25	0.15	97.95	-12.592	166.383	33	B
USPxxx_KN	SKS	EQ021800239	43.27	74.5	65	6.5	1.25	0.22	97.72	-12.4	166.524	33	A
USPxxx_KN	SKS	EQ021951635	43.27	74.5	59	5	1.45	0.15	101.07	-8.203	156.978	17.9	B
USPxxx_KN	SKS	EQ022500814	43.27	74.5	69	4.5	1.3	0.2	92.46	-20.275	-176.04	209.9	B
USPxxx_KN	SKS	EQ022771905	43.27	74.5	59	10	1.4	0.35	95.04	-20.991	-179.02	621.1	A
USPxxx_KN	SKS	EQ022951139	43.27	74.5	57	11.5	1.3	0.35	94.32	-20.633	-178.39	549	B
USPxxx_KN	SKS	EQ030040515	43.27	74.5	67	5	1.7	0.28	93.79	-20.57	-177.66	378	B
USPxxx_KN	SKS	EQ031651828	43.27	74.5	69	4	1.45	0.17	100.76	-7.583	156.782	405.8	A

USPxxx_KN	SKS	EQ032030421	43.27	74.5	66	11.5	1.35	0.38	100.24	-15.416	166.142	33	B
USPxxx_KN	SKS	EQ032331212	43.27	74.5	59	12	1.4	0.75	124.89	-45.104	167.144	28	B
USPxxx_KN	SKS	EQ032420005	43.27	74.5	69	14.5	1.25	0.4	99.05	-14.796	167.238	137	B
USPxxx_KN	SKS	EQ032791829	43.27	74.5	59	6	0.9	0.15	97.9	-10.752	164.417	33	B
USPxxx_KN	SKS	EQ033101038	43.27	74.5	68	7.5	1.35	0.25	101.41	-19.262	168.892	113.7	B
USPxxx_KN	SKS	EQ040251143	43.27	74.5	74	17.5	0.95	0.48	88.24	-16.83	-174.2	129.8	B
USPxxx_KN	SKS	EQ040510558	43.27	74.5	76	5	1.45	0.28	97.17	-11.608	166.45	84	B
USPxxx_KN	SKS	EQ041740904	43.27	74.5	66	4	1.25	0.15	96.78	-10.902	166.259	152.8	B
USPxxx_KN	SKS	EQ050391448	43.27	74.5	64	3	1.25	0.1	98.62	-14.252	167.259	206.3	B
USPxxx_KN	SKS	EQ050781734	43.27	74.5	62	6	1.3	0.2	96.16	-21.893	-179.55	598.7	B
USPxxx_KN	SKS	EQ051401240	43.27	74.5	61	8.5	1.35	0.25	99.49	-24.529	178.84	565.3	B
USPxxx_KN	SKS	EQ051680621	43.27	74.5	60	4.5	1.55	0.17	15.89	40.773	-126.57	12	B
USPxxx_KN	SKS	EQ052590031	43.27	74.5	67	5.5	1.25	0.23	101.55	-5.622	153.592	10.7	B
USPxxx_KN	SKS	EQ060230602	43.27	74.5	70	8	1.2	0.23	100.72	-17.391	167.715	23	B
USPxxx_KN	SKS	EQ060570308	43.27	74.5	62	2	1.25	0.08	97.94	-23.607	-179.99	535.2	B
USPxxx_KN	SKS	EQ060660628	43.27	74.5	69	4	1.45	0.17	98.97	-14.805	167.368	136.2	A
USPxxx_KN	SKS	EQ060712054	43.27	74.5	68	4.5	1.4	0.17	101.11	-5.075	153.657	47.3	B
USPxxx_KN	SKS	EQ061530731	43.27	74.5	58	8	1.1	0.2	94.7	-20.837	-178.7	591.6	B
USPxxx_KN	SKS	EQ061991602	43.27	74.5	69	3	1.35	0.15	93.88	-20.084	-178.43	587.2	B
USPxxx_KN	SKS	EQ061991948	43.27	74.5	70	11	1.2	0.33	99.78	-3.908	154.373	473.8	B
USPxxx_KN	SKS	EQ062192218	43.27	74.5	67	2	1.3	0.08	99.45	-15.798	167.789	150	A
USPxxx_KN	SKS	EQ062462257	43.27	74.5	64	5.5	1.35	0.18	99.08	-24.046	178.817	568.1	B
USPxxx_KN	SKS	EQ062721308	43.27	74.5	-75	13	0.5	0.15	312.47	10.876	-61.756	53	B
USPxxx_KN	SKS	EQ062761803	43.27	74.5	72	7	1.3	0.23	101.01	-18.84	169.001	161	B
USPxxx_KN	SKS	EQ062881707	43.27	74.5	80	9	1.5	0.33	47.87	19.879	-155.94	39.1	B
USPxxx_KN	SKS	EQ062911045	43.27	74.5	59	11.5	0.9	0.22	99.22	-15.053	167.266	115	B
USPxxx_KN	SKS	EQ070921202	43.27	74.5	76	11	1.35	0.43	101	-8.706	157.62	14	B
USPxxx_KN	SKS	EQ070941100	43.27	74.5	52	9.5	1.35	0.3	102.6	-20.715	168.828	13	A
USPxxx_KN	SKS	EQ071151334	43.27	74.5	66	4.5	1.25	0.15	98.91	-14.285	166.863	55	A
USPxxx_KN	SKS	EQ071210015	43.27	74.5	72	2.5	1.45	0.13	101.56	-7.124	155.134	9	A
USPxxx_KN	SKS	EQ071262111	43.27	74.5	67	5	1.4	0.22	93.91	-19.401	-179.35	676.4	A
USPxxx_KN	SKS	EQ071870109	43.27	74.5	60	4	1.25	0.22	347.25	16.35	-93.99	113	A
USPxxx_KN	SKS	EQ071960927	43.27	74.5	66	8.5	1.4	0.3	98.6	-15.383	168.597	8	B
USPxxx_KN	SKS	EQ072280839	43.27	74.5	61	17.5	0.85	0.28	100.56	-9.834	159.465	15	A
USPxxx_KN	SKS	EQ072450105	43.27	74.5	73	13	1.2	0.45	97.64	-11.61	165.762	35	B
USPxxx_KN	SKS	EQ072571151	43.27	74.5	65	4	1.6	0.17	98.18	-23.645	179.68	552.4	B
USPxxx_KN	SKS	EQ072780717	43.27	74.5	67	5	1.4	0.2	99.69	-25.189	179.459	509.4	A
USPxxx_KN	SKS	EQ072892105	43.27	74.5	69	4.5	1.45	0.2	100.17	-25.775	179.53	509.3	A
USPxxx_KN	SKS	EQ073241252	43.27	74.5	71	14.5	1.25	0.45	101.04	-6.907	155.672	52.6	B
USPxxx_KN	SKS	EQ073430728	43.27	74.5	67	7.5	1.25	0.25	98.54	-25.996	-177.51	152.5	B
USPxxx_KN	SKS	EQ080151752	43.27	74.5	65	4.5	1.4	0.2	96.24	-21.984	-179.54	597.6	B
USPxxx_KN	SKS	EQ080431250	43.27	74.5	53	13	0.9	0.28	347.6	16.357	-94.304	83	A
USPxxx_KN	SKS	EQ080721123	43.27	74.5	70	17.5	1.3	0.52	100.33	-16.567	167.335	13	B
USPxxx_KN	SKS	EQ081050945	43.27	74.5	-69	8.5	0.7	0.15	226.44	-56.022	-28.035	140.2	B
USPxxx_KN	SKS	EQ081172334	43.27	74.5	78	4.5	1.2	0.13	130.09	-49.091	164.117	10	A

USPxxx_KN	SKS	EQ081191833	43.27	74.5	72	4	1.6	0.23	101.91	-19.94	168.95	32	B
USPxxx_KN	SKS	EQ081441935	43.27	74.5	75	6.5	0.95	0.18	288.74	7.313	-34.9	8	B
USPxxx_KN	SKS	EQ081451324	43.27	74.5	68	6	1.35	0.2	100.96	-7.181	156.07	29	B
USPxxx_KN	SKS	EQ081551620	43.27	74.5	69	3.5	1.2	0.13	99.83	-10.51	161.27	84	A
USPxxx_KN	SKS	EQ082010927	43.27	74.5	70	7	1.15	0.2	98.06	-11.04	164.49	11	A
USPxxx_KN	SKS	EQ082012239	43.27	74.5	57	18.5	0.9	0.35	90.8	-17.34	-177.3	391	A
USPxxx_KN	SKS	EQ082450400	43.27	74.5	66	5.5	1.5	0.23	98.06	-25.39	-177.6	171.1	A
USPxxx_KN	SKS	EQ082491235	43.27	74.5	70	7.5	1.25	0.28	98.08	-13.27	166.97	146.8	B
USPxxx_KN	SKS	EQ082520303	43.27	74.5	73	11	1.35	0.35	101.82	-19.96	169.11	36	A
USPxxx_KN	SKS	EQ082531222	43.27	74.5	78	13	1.3	0.5	100.97	-9.272	158.26	12	A
USPxxx_KN	SKS	EQ083091835	43.27	74.5	75	11.5	1.4	0.48	100.04	-17.14	168.46	205.7	B
USPxxx_KN	SKS	EQ083451315	43.27	74.5	74	5	1.3	0.2	97.64	-12.34	166.57	51	B
USPxxx_KN	SKS	EQ091081749	43.27	74.5	63	8.5	1.3	0.35	94.37	-20.61	-178.5	566.1	B
USPxxx_KN	SKS	EQ091160006	43.27	74.5	63	4	1.9	0.23	103.25	-30.3	-178.6	131.7	B
USPxxx_KN	SKS	EQ091562116	43.27	74.5	66	5.5	1.6	0.23	100.74	-17.43	167.72	7	B
USPxxx_KN	SKS	EQ092170831	43.27	74.5	75	4	1.6	0.17	125.68	-45.55	166.36	10	B
USPxxx_KN	SKS	EQ092220406	43.27	74.5	63	13	1.1	0.32	97.42	-11.61	166.09	35	A
USPxxx_KN	SKS	EQ092302120	43.27	74.5	68	9.5	1.55	0.38	99.15	-26.06	-178.4	269.8	B
USPxxx_KN	SKS	EQ092812116	43.27	74.5	69	9.5	1.2	0.3	98.24	-12.91	166.31	35	A
USPxxx_KN	SKS	EQ092961514	43.27	74.5	63	5.5	1.45	0.2	97.88	-12.2	166.05	31.1	B
USPxxx_KN	SKS	EQ093041909	43.27	74.5	58	12.5	0.95	0.25	97.05	-11.38	166.38	133.9	B
USPxxx_KN	SKS	EQ093260748	43.27	74.5	66	10.5	1	0.28	91.94	-17.79	-178.4	522.6	A
USPxxx_KN	SKS	EQ100090551	43.27	74.5	66	15.5	1.2	0.38	101.3	-9.131	157.63	12	B
USPxxx_KN	SKS	EQ100631402	43.27	74.5	73	9.5	1.3	0.3	98.13	-13.57	167.23	176	A
USPxxx_KN	SKS	EQ101770530	43.27	74.5	72	9	0.95	0.2	99.8	-10.63	161.45	35	B
USPxxx_KN	SKS	EQ102222318	43.27	74.5	66	6.5	1.3	0.25	98.72	-14.46	167.35	191.6	B
USPxxx_KN	SKS	EQ103470114	43.27	74.5	75	5.5	1.4	0.25	100.78	-6.534	155.65	135.8	B
USPxxx_KN	SKS	EQ110521057	43.27	74.5	67	4.5	1.45	0.17	101.19	-26.14	178.39	558.1	A
USPxxx_KN	SKS	EQ110931407	43.27	74.5	65	4	1.2	0.17	91.92	-17.64	-178.6	551.7	A
USPxxx_KN	SKS	EQ111081303	43.27	74.5	59	7.5	1.65	0.3	108.07	-34.34	179.87	86	B
USPxxx_KN	SKS	EQ111130416	43.27	74.5	69	3	1.2	0.1	99.78	-10.38	161.2	79	A
USPxxx_KN	SKS	EQ111720204	43.27	74.5	69	3	1.2	0.1	97.68	-11.48	165.55	14	A
USPxxx_KN	SKS	EQ921170741	43.27	74.5	57	5	1.5	0.2	14.49	40.43	-124.6	19.6	B
USPxxx_KN	SKS	EQ921371458	43.27	74.5	68	5	1.3	0.17	101.18	-19.12	169.08	164.5	B
USPxxx_KN	SKS	EQ921401442	43.27	74.5	70	6	1.3	0.2	100.39	-9.463	159.32	32.7	A
USPxxx_KN	SKS	EQ921480513	43.27	74.5	70	6	1.1	0.18	97.62	-11.12	165.24	18.8	B
USPxxx_KN	SKS	EQ922172108	43.27	74.5	67	8	1	0.15	97.47	-12.13	166.59	91	A
USPxxx_KN	SKS	EQ940732051	43.27	74.5	50	10.5	0.85	0.2	345.48	15.99	-92.43	164.2	A
USPxxx_KN	SKS	EQ940902240	43.27	74.5	63	4	1.35	0.15	96.3	-22.06	-179.5	579.8	B
USPxxx_KN	SKS	EQ941081729	43.27	74.5	72	12	1.5	0.4	101.23	-6.47	154.93	26.3	A
USPxxx_KN	SKS	EQ941102335	43.27	74.5	61	14.5	0.85	0.28	91.93	-17.8	-178.4	543.1	B
USPxxx_KN	SKS	EQ941162336	43.27	74.5	76	7	1.1	0.25	99.48	-16.02	167.99	185.4	B
USPxxx_KN	SKS	EQ941240637	43.27	74.5	68	6	1.25	0.23	100.09	-17.05	168.27	206.4	B
USPxxx_KN	SKS	EQ941940235	43.27	74.5	71	2	1.3	0.07	100.25	-16.62	167.52	33	B
USPxxx_KN	SKS	EQ941950009	43.27	74.5	70	4	1.4	0.2	100.27	-16.58	167.45	19.8	B

USPxxx_KN	SKS	EQ942551223	43.27	74.5	62	4.5	1.6	0.17	11.09	38.808	-119.6	1.7	B
USPxxx_KN	SKS	EQ942741635	43.27	74.5	70	16.5	1.05	0.4	101	-17.75	167.68	16.6	B
USPxxx_KN	SKS	EQ943240257	43.27	74.5	70	6.5	1.45	0.25	100.4	-9.794	159.71	23.9	B
USPxxx_KN	SKS	EQ943480728	43.27	74.5	51	6	1.35	0.18	100.4	-9.519	159.41	16.3	B
USPxxx_KN	SKS	EQ950171654	43.27	74.5	76	9	1.45	0.55	95.05	-20.83	-179.2	633.5	B
USPxxx_KN	SKS	EQ951252248	43.27	74.5	71	2.5	1.45	0.12	100.9	-18.55	168.78	116.7	B
USPxxx_KN	SKS	EQ951490729	43.27	74.5	73	5.5	1.25	0.2	97.81	-10.25	164	26.4	A
USPxxx_KN	SKS	EQ951721528	43.27	74.5	-85	13.5	0.95	0.28	146	-61.67	154.77	10	B
USPxxx_KN	SKS	EQ951750658	43.27	74.5	70	4	1.3	0.17	100.1	-3.959	153.93	386	B
USPxxx_KN	SKS	EQ951801224	43.27	74.5	66	3.5	1.4	0.13	101.4	-19.54	169.29	139.4	A
USPxxx_KN	SKS	EQ951931546	43.27	74.5	56	17	1.3	0.47	103.4	-23.26	170.87	11.4	B
USPxxx_KN	SKS	EQ952091429	43.27	74.5	62	4.5	1.05	0.12	92.83	-21.18	-175.4	92.4	B
USPxxx_KN	SKS	EQ952281504	43.27	74.5	66	3.5	1.8	0.17	106	-31.95	179.36	463	B
USPxxx_KN	SKS	EQ952590103	43.27	74.5	75	9.5	1.45	0.4	100.9	-6.323	155.21	151	B
USPxxx_KN	SKS	EQ952791139	43.27	74.5	71	2.5	1.2	0.13	92.14	-20	-175.9	197.8	A
USPxxx_KN	SKS	EQ960821731	43.27	74.5	57	5.5	1.45	0.17	108.5	-35.24	-179.2	33	B
USPxxx_KN	SKS	EQ961620104	43.27	74.5	71	13	1.05	0.35	98.12	-13.48	167.13	200.1	B
USPxxx_KN	SKS	EQ971121651	43.27	74.5	65	7.5	1.2	0.23	98.38	-13.22	166.45	33	B
USPxxx_KN	SKS	EQ981901445	43.27	74.5	63	5.5	1.45	0.2	103.7	-30.49	-179	129.5	B
USPxxx_KN	SKS	EQ981971156	43.27	74.5	66	9	1	0.23	96.95	-11.04	166.16	110.2	A
USPxxx_KN	SKS	EQ982060239	43.27	74.5	67	11	1.2	0.33	98.39	-13.61	166.87	43.5	A
USPxxx_KN	SKS	EQ983291805	43.27	74.5	72	5.5	1.2	0.18	99.7	-7.859	158.62	47.9	B
USPxxx_KN	SKS	EQ983610038	43.27	74.5	57	16	1.1	0.4	93.87	-21.63	-176.4	144.3	A
USPxxx_KN	SKS	EQ990372147	43.27	74.5	69	11.5	1	0.28	97.94	-12.85	166.7	90.1	A
USPxxx_KN	SKS	EQ990921705	43.27	74.5	45	12.5	1.1	0.32	102.4	-19.9	168.19	10	B
USPxxx_KN	SKS	EQ990991216	43.27	74.5	66	8.5	1.4	0.27	101.5	-26.35	178.22	621.2	B
USPxxx_KN	SKS	EQ991020941	43.27	74.5	71	10	1.3	0.32	102.2	-20.04	168.58	42.8	B
USPxxx_KN	SKS	EQ991031038	43.27	74.5	64	6	1.15	0.2	93.74	-21.42	-176.5	164.2	A
USPxxx_KN	SKS	EQ991101904	43.27	74.5	79	8.5	2	0.53	105.1	-31.89	-179	95.7	B
USPxxx_KN	SKS	EQ991900504	43.27	74.5	74	8.5	1.55	0.35	101.3	-6.514	154.94	29	B
USPxxx_KN	SKS	EQ992601454	43.27	74.5	62	7	1.1	0.18	98.28	-13.79	167.24	196.8	A
USPxxx_KN	SKS	EQ993631915	43.27	74.5	68	5	1.35	0.2	97.51	-10.98	165.25	33	B
USPxxx_KN	SKS	EQ993632253	43.27	74.5	70	6.5	1.2	0.25	97.59	-11.17	165.33	33	A
WUSxxx_Gy	PKS	EQ910950419	41.2	79.2	88	7.5	0.7	0.12	322.4	-5.982	-77.09	19.8	A
WUSxxx_Gy	PKS	EQ931261303	41.2	79.2	72	17.5	0.75	0.25	313.3	-8.472	-71.49	572.8	A
WUSxxx_Gy	PKS	EQ951220606	41.2	79.2	74	4.5	0.85	0.15	323.7	-3.792	-76.92	97	B
WUSxxx_Gy	PKS	EQ952761244	41.2	79.2	72	4.5	1.35	0.3	325.6	-2.778	-77.85	16.7	A
WUSxxx_Gy	PKS	EQ961180840	41.2	79.2	64	2.5	1.95	0.73	330.3	2.368	-79.34	10	B
WUSxxx_Gy	PKS	EQ973010615	41.2	79.2	70	7.5	1	0.33	323	-4.368	-76.68	112	B
WUSxxx_Gy	SKKS	EQ000132007	41.2	79.2	24	4.5	1.4	0.3	95.9	-17.61	-178.7	535	B
WUSxxx_Gy	SKKS	EQ001140927	41.2	79.2	57	11	0.6	0.15	280.6	-28.31	-62.99	608.5	A
WUSxxx_Gy	SKKS	EQ001141701	41.2	79.2	67	12.5	0.6	0.15	280.5	-28.38	-62.94	609.8	A
WUSxxx_Gy	SKKS	EQ001680755	41.2	79.2	52	7	0.9	0.12	276.8	-33.88	-70.09	120.2	A
WUSxxx_Gy	SKKS	EQ893330548	41.2	79.2	30	12	1.75	0.88	103.5	-25.37	179.63	487	B
WUSxxx_Gy	SKKS	EQ902830100	41.2	79.2	88	11.5	0.7	0.15	296.3	-19.5	-66.62	266	B

WUSxxx_Gy	SKKS	EQ931901537	41.2	79.22	23	7	1.15	0.33	96.95	-19.782	-177.49	398.2	B
WUSxxx_Gy	SKKS	EQ941940235	41.2	79.22	29	4	1.05	0.25	103.7	-16.62	167.518	33	B
WUSxxx_Gy	SKKS	EQ942930115	41.2	79.22	46	16	0.7	0.23	265.1	-39.187	-70.811	161.8	B
WUSxxx_Gy	SKKS	EQ943002220	41.2	79.22	39	5.5	0.9	0.17	104.1	-25.778	179.339	518.7	B
WUSxxx_Gy	SKKS	EQ950171654	41.2	79.22	45	12	1	0.25	98.93	-20.833	-179.24	633.5	B
WUSxxx_Gy	SKKS	EQ960821731	41.2	79.22	38	19.5	0.8	0.43	112.1	-35.241	-179.21	33	A
WUSxxx_Gy	SKKS	EQ962280733	41.2	79.22	29	3.5	1.05	0.18	101.6	-13.302	166.838	33	A
WUSxxx_Gy	SKKS	EQ971020921	41.2	79.22	33	2.5	1.3	0.2	104.9	-28.171	-178.37	183.6	B
WUSxxx_Gy	SKKS	EQ971111202	41.2	79.22	26	7	1.05	0.35	101.1	-12.584	166.676	33	B
WUSxxx_Gy	SKKS	EQ971420750	41.2	79.22	68	5	1.2	0.25	0.91	18.684	-101.6	70	A
WUSxxx_Gy	SKKS	EQ972901502	41.2	79.22	25	5	1.55	0.38	98.73	-20.888	-178.84	578.9	B
WUSxxx_Gy	SKKS	EQ982351357	41.2	79.22	56	6.5	0.9	0.2	344.5	11.663	-88.038	54.6	A
WUSxxx_Gy	SKKS	EQ990991216	41.2	79.22	30	18.5	0.8	0.47	105.2	-26.354	178.221	621.2	B
WUSxxx_Gy	SKKS	EQ992580301	41.2	79.22	77	17	0.55	0.17	295.3	-20.934	-67.275	218	B
WUSxxx_Gy	SKS	EQ000081647	41.2	79.22	22	15.5	0.95	0.43	92.47	-16.925	-174.25	183.4	A
WUSxxx_Gy	SKS	EQ001252036	41.2	79.22	22	8	0.75	0.23	96.02	-17.914	-178.52	515.8	B
WUSxxx_Gy	SKS	EQ001271344	41.2	79.22	25	10	0.95	0.33	101	-11.295	165.432	12	B
WUSxxx_Gy	SKS	EQ001292135	41.2	79.22	68	19.5	0.5	0.28	108.8	-31.319	179.839	383.1	B
WUSxxx_Gy	SKS	EQ001541113	41.2	79.22	61	5.5	1.35	0.17	20.5	44.513	-130.08	10	B
WUSxxx_Gy	SKS	EQ001981725	41.2	79.22	22	6	0.9	0.25	101.1	-12.404	166.509	33	B
WUSxxx_Gy	SKS	EQ002280430	41.2	79.22	51	21	0.4	0.3	109.1	-31.511	179.725	357.7	A
WUSxxx_Gy	SKS	EQ002461702	41.2	79.22	28	10	0.6	0.2	98.22	-20.073	-179.14	687.6	B
WUSxxx_Gy	SKS	EQ002700617	41.2	79.22	14	8.5	1.1	0.4	92.48	-17.178	-173.93	56	A
WUSxxx_Gy	SKS	EQ002781658	41.2	79.22	29	11.5	1.15	0.53	103.1	-15.421	166.91	23	B
WUSxxx_Gy	SKS	EQ003530119	41.2	79.22	27	9.5	0.75	0.2	99.15	-21.178	-179.12	628.2	A
WUSxxx_Gy	SKS	EQ010091649	41.2	79.22	32	5.5	0.8	0.15	102.6	-14.928	167.17	103	A
WUSxxx_Gy	SKS	EQ020021722	41.2	79.22	57	14.5	0.6	0.32	104.2	-17.6	167.856	21	B
WUSxxx_Gy	SKS	EQ060660628	41.2	79.22	32	6	0.8	0.17	102.4	-14.805	167.368	136.2	A
WUSxxx_Gy	SKS	EQ061200817	41.2	79.22	36	6.5	0.75	0.15	102.6	-15.103	167.441	127.7	A
WUSxxx_Gy	SKS	EQ890501249	41.2	79.22	39	8	0.6	0.15	102.6	-14.894	167.171	101.2	B
WUSxxx_Gy	SKS	EQ890892039	41.2	79.22	30	7	0.75	0.18	95.77	-19.589	-175.85	230	B
WUSxxx_Gy	SKS	EQ890960805	41.2	79.22	44	16.5	0.5	0.2	104.9	-19.306	169.002	165.7	A
WUSxxx_Gy	SKS	EQ891281428	41.2	79.22	31	9.5	0.55	0.15	101.6	-23.427	-179.95	548.2	A
WUSxxx_Gy	SKS	EQ893200839	41.2	79.22	18	2	1.4	0.23	96.18	-17.76	-178.99	537.6	B
WUSxxx_Gy	SKS	EQ900740456	41.2	79.22	37	9.5	0.9	0.2	102.7	-15.13	167.238	132.3	A
WUSxxx_Gy	SKS	EQ902081237	41.2	79.22	42	19.5	0.6	0.25	102.7	-15.355	167.464	125.7	B
WUSxxx_Gy	SKS	EQ902242125	41.2	79.22	34	7.5	0.7	0.2	104.9	-19.435	169.132	140.4	A
WUSxxx_Gy	SKS	EQ902711944	41.2	79.22	41	9.5	0.6	0.15	101.6	-13.559	167.079	176	B
WUSxxx_Gy	SKS	EQ911600745	41.2	79.22	18	5.5	0.9	0.25	96.58	-20.252	-176.22	265.5	A
WUSxxx_Gy	SKS	EQ911641718	41.2	79.22	18	4.5	1.05	0.32	96	-19.95	-175.72	215.3	B
WUSxxx_Gy	SKS	EQ911940250	41.2	79.22	65	5.5	1.3	0.17	18.25	42.182	-125.64	11	A
WUSxxx_Gy	SKS	EQ912271335	41.2	79.22	41	5.5	0.55	0.1	102.9	-16.064	168.01	170.8	A
WUSxxx_Gy	SKS	EQ912291929	41.2	79.22	52	5.5	1.25	0.2	17.88	40.252	-124.29	9.1	B
WUSxxx_Gy	SKS	EQ912292217	41.2	79.22	47	4.5	1.45	0.18	18.2	41.821	-125.4	13.5	B
WUSxxx_Gy	SKS	EQ921170741	41.2	79.22	63	6.5	1.2	0.15	18.03	40.432	-124.57	19.6	A

WUSxxx_Gy	SKS	EQ921171118	41.2	79.22	66	4.5	1.2	0.1	18.04	40.383	-124.56	22.6	B
WUSxxx_Gy	SKS	EQ921480513	41.2	79.22	26	7	1.1	0.32	100.94	-11.122	165.239	18.8	A
WUSxxx_Gy	SKS	EQ922172108	41.2	79.22	23	18	1.05	0.6	100.83	-12.127	166.589	91	B
WUSxxx_Gy	SKS	EQ922210108	41.2	79.22	67	18.5	0.5	0.33	108.97	-31.566	-180	392.3	B
WUSxxx_Gy	SKS	EQ922592103	41.2	79.22	38	12	0.6	0.22	101.86	-14.053	167.269	184.2	B
WUSxxx_Gy	SKS	EQ922851924	41.2	79.22	34	7.5	0.75	0.18	104.83	-19.247	168.948	129	B
WUSxxx_Gy	SKS	EQ922892237	41.2	79.22	34	5.5	0.7	0.13	102.59	-14.537	166.711	25	A
WUSxxx_Gy	SKS	EQ922910251	41.2	79.22	62	9.5	0.6	0.1	104.44	-19.226	169.553	11.8	B
WUSxxx_Gy	SKS	EQ922962308	41.2	79.22	68	17	0.7	0.38	106.01	-30.125	-177	15.7	B
WUSxxx_Gy	SKS	EQ923662017	41.2	79.22	39	5.5	1.05	0.22	108.36	-32.015	-178.03	16.4	B
WUSxxx_Gy	SKS	EQ931061408	41.2	79.22	25	8	0.7	0.18	96.12	-17.778	-178.86	565.1	B
WUSxxx_Gy	SKS	EQ931901537	41.2	79.22	22	17.5	0.7	0.33	96.95	-19.782	-177.49	398.2	A
WUSxxx_Gy	SKS	EQ940902240	41.2	79.22	28	13	0.65	0.2	100.16	-22.057	-179.53	579.8	A
WUSxxx_Gy	SKS	EQ940961213	41.2	79.22	36	17	0.9	0.42	104.07	-17.371	167.816	17.4	A
WUSxxx_Gy	SKS	EQ941940235	41.2	79.22	45	5.5	0.55	0.08	103.68	-16.62	167.518	33	A
WUSxxx_Gy	SKS	EQ941950009	41.2	79.22	33	3.5	1.05	0.17	103.69	-16.582	167.452	19.8	A
WUSxxx_Gy	SKS	EQ942051755	41.2	79.22	25	1.5	1.2	0.15	103.91	-16.966	167.574	20.5	A
WUSxxx_Gy	SKS	EQ943002220	41.2	79.22	46	21	0.4	0.2	104.07	-25.778	179.339	518.7	A
WUSxxx_Gy	SKS	EQ950842244	41.2	79.22	25	5.5	0.95	0.22	100.28	-10.998	166.123	79.4	A
WUSxxx_Gy	SKS	EQ951252248	41.2	79.22	62	19	0.4	0.25	104.39	-18.553	168.779	116.7	A
WUSxxx_Gy	SKS	EQ951741610	41.2	79.22	55	9	0.7	0.1	101.01	-24.563	-177.26	108.1	B
WUSxxx_Gy	SKS	EQ951801224	41.2	79.22	42	9	0.55	0.1	104.86	-19.544	169.287	139.4	A
WUSxxx_Gy	SKS	EQ951931546	41.2	79.22	46	19	0.75	0.35	106.88	-23.26	170.865	11.4	A
WUSxxx_Gy	SKS	EQ952791139	41.2	79.22	20	14	0.9	0.42	96.17	-20.002	-175.92	197.8	B
WUSxxx_Gy	SKS	EQ960771448	41.2	79.22	34	6.5	0.7	0.12	102.34	-14.705	167.297	164.4	A
WUSxxx_Gy	SKS	EQ960912341	41.2	79.22	25	6.5	0.75	0.2	100.73	-11.178	165.644	33	A
WUSxxx_Gy	SKS	EQ962151255	41.2	79.22	29	13	0.85	0.32	103.14	-10.769	161.445	33	A
WUSxxx_Gy	SKS	EQ962400624	41.2	79.22	57	19.5	0.35	0.33	100.76	-22.57	-179.79	574.9	B
WUSxxx_Gy	SKS	EQ962441558	41.2	79.22	64	19	0.55	0.35	102.5	-14.93	167.331	125.8	B
WUSxxx_Gy	SKS	EQ962450645	41.2	79.22	32	4	0.85	0.12	100.58	-11.811	166.618	187.2	B
WUSxxx_Gy	SKS	EQ962581310	41.2	79.22	27	4.5	0.9	0.17	100.28	-10.878	165.991	72.7	A
WUSxxx_Gy	SKS	EQ962730615	41.2	79.22	33	15.5	0.95	0.35	100.11	-10.549	165.867	185.2	B
WUSxxx_Gy	SKS	EQ963222111	41.2	79.22	41	21.5	0.45	0.25	100.38	-22.196	-179.7	591.6	B
WUSxxx_Gy	SKS	EQ970801207	41.2	79.22	67	12.5	0.4	0.08	108.8	-31.163	179.624	448.7	A
WUSxxx_Gy	SKS	EQ971121651	41.2	79.22	36	18	0.7	0.28	101.75	-13.221	166.45	33	A
WUSxxx_Gy	SKS	EQ971411410	41.2	79.22	40	13	0.6	0.22	105.57	-20.438	169.287	57	A
WUSxxx_Gy	SKS	EQ971420750	41.2	79.22	59	15.5	0.65	0.25	0.91	18.684	-101.6	70	A
WUSxxx_Gy	SKS	EQ971620929	41.2	79.22	23	10	0.8	0.28	100.63	-23.97	-177.51	164.1	B
WUSxxx_Gy	SKS	EQ973191859	41.2	79.22	34	20	1	0.53	102.63	-15.145	167.375	123.1	B
WUSxxx_Gy	SKS	EQ981971156	41.2	79.22	22	7.5	0.9	0.3	100.29	-11.04	166.16	110.2	A
WUSxxx_Gy	SKS	EQ982001558	41.2	79.22	24	13	0.75	0.25	97.7	-21.836	-175.79	72.1	A
WUSxxx_Gy	SKS	EQ982060239	41.2	79.22	36	15.5	0.75	0.33	101.78	-13.608	166.867	43.5	A
WUSxxx_Gy	SKS	EQ982730303	41.2	79.22	47	17.5	0.7	0.3	103.93	-17.202	167.832	33	B
WUSxxx_Gy	SKS	EQ983181503	41.2	79.22	31	10.5		0.28	102.48	-14.946	167.367	115.1	B
WUSxxx_Gy	SKS	EQ983610038	41.2	79.22	18	10	1.05	0.45	97.88	-21.632	-176.38	144.3	A
WUSxxx_Gy	SKS	EQ990372147	41.2	79.22	25	3.5	1.2	0.27	101.32	-12.853	166.697	90.1	A
WUSxxx_Gy	SKS	EQ990991216	41.2	79.22	34	18.5	0.65	0.3	105.22	-26.354	178.221	621.2	B
WUSxxx_Gy	SKS	EQ991020941	41.2	79.22	32	17	0.6	0.25	105.68	-20.036	168.575	42.8	B
WUSxxx_Gy	SKS	EQ991031038	41.2	79.22	23	4	0.85	0.2	97.75	-21.422	-176.46	164.2	A
WUSxxx_Gy	SKS	EQ991450734	41.2	79.22	48	12.5	0.65	0.15	104.4	-19.078	169.438	242.6	B
WUSxxx_Gy	SKS	EQ992140947	41.2	79.22	40	9	0.75	0.18	100.78	-12.55	167.175	251.2	B
WUSxxx_Gy	SKS	EQ992601454	41.2	79.22	38	11.5	0.65	0.17	101.68	-13.79	167.238	196.8	A

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