



Publication Year	2015
Acceptance in OA @INAF	2020-04-06T16:30:11Z
Title	The IVS data input to ITRF2014
Authors	Nothnagel, Axel; Alef, Walter; Amagai, Jun; Andersen, Per Helge; Andreeva, Tatiana; et al.
DOI	10.5880/GFZ.1.1.2015.002
Handle	http://hdl.handle.net/20.500.12386/23886



Dataset

The IVS data input to ITRF2014




Released

Cite as:

Nothnagel, Axel; International VLBI Service for Geodesy and Astrometry (IVS); Alef, Walter; Amagai, Jun; Andersen, Per Helge; Anderson, James; Andreeva, Tatiana; Artz, Thomas; Bachmann, Sabine; Balidakis, Kyriakos; Barache, Christophe; Baudry, Alain; Bauernfeind, Erhard; Bayer, Karen; Beaudouin, Christopher; Behrend, Dirk; Bellanger, Antoine; Berdnikov, Anton; Bergman, Per; Bernhart, Simone; Bertarini, Alessandra; Bianco, Giuseppe; Bielmaier, Ewald; Boboltz, David; Böhm, Johannes; Böhm, Sigrid; Boer, Armin; Bolotin, Sergei; Bougeard, Mireille; Bourda, Geraldine; Brazeau, Sylvain; Buttaccio, Salvo; Cannizzaro, Letizia; Cappallo, Roger; Carlson, Brent; Carter, Merri Sue; Charlot, Patrick; Chen, Chenyu; Chen, Maozheng; Cho, Jungho; Clark, Thomas; Colloud, Arnaud; Colomer, Francisco; Colucci, Giuseppe; Combrinck, Ludwig; Conway, John; Corey, Brian; Curtis, Ronald; Daniels, Mike; Dassing, Reiner; Davis, Maria; de-Vicente, Pablo; De Witt, Aletha; Diakov, Alexey; Dickey, John; Dieck, Christopher; Diegel, Irv; Doi, Koichiro; Drewes, Hermann; Dube, Maurice; Elgered, Gunnar; Engelhardt, Gerald; Evangelista, Mark; Fan, Qingyuan; Farley, Stephen; Fedotov, Leonid; Fey, Alan; Figueroa, Ricardo; Fukuzaki, Yoshihiro; Gambis, Daniel; Garcia-Espada, Susana; Gaume, Ralph; Geiger, Nicole; Gipson, John; Glaser, Susanne; Gomez, Frank; Gomez-Gonzalez, Jesus; Gordon, David; Govind, Ramesh; Gubanov, Vadim; Gulyaev, Sergei; Haas, Ruediger; Hall, David; Halsig, Sebastian; Hammargren, Roger; Hase, Hayo; Heinkelmann, Robert; Helldner, Leif; Herrera, Cristian; Himwich, Ed; Hobiger, Thomas; Holst, Christoph; Hong, Xiaoyu; Honma, Mareki; Huang, Xinyong; Hugentobler, Urs; Ichikawa, Ryuichi; Iddink, Andreas; Ihde, Johannes; Iljin, Gennadiy; Inniss, Roxanne; Ipatov, Alexander; Ipatova, Irina; Ishihara, Misao; Ivanov, D. V.; Jacobs, Chris; Jike, Takaaki; Johansson, Karl-Ake; Johnson, Heidi; Johnston, Kenneth; Ju, Hyunhee; Karasawa, Masao; Karbon, Maria; Kaufmann, Pierre; Kawabata, Ryoji; Kawaguchi, Noriyuki; Kawai, Eiji; Kaydanovsky, Michael; Kharinov, Mikhail; Kobayashi, Hideyuki; Kokado, Kensuke; Kondo, Tetsuro; Korkin, Edward; Koyama, Yasuhiro; Krasna, Hana; Kronschnabl, Gerhard; Kurdubov, Sergey; Kurihara, Shinobu; Kuroda, Jiro; Kwak, Younghee; La Porta, Laura; Labelle, Ruth; LaFrance, Jacques; Lamb, Doug; Lambert, Sébastien; Langkaas, Line; Lanotte, Roberto; Lavrov, Alexey; Le Bail, Karine; Leek, Judith; Li, Bing; Li, Huihua; Li, Jinling; Li, Liu; Liang, Shiguang; Lindqvist, Michael; Liu, Xiang; Loesler, Michael; Long, Jim; Lonsdale, Colin; Lovell, Jim; Lowe, Stephen; Lucena, Antonio; Luzum, Brian; Ma, Chopu; Ma, Jun; Maccaferri, Giuseppe; Machida, Morito; MacMillan, Dan; Madzak, Matthias; Malkin, Zinoviy; Manabe, Seiji; Mantovani, Franco; Mardyshev, Vyacheslav; Marshakov, Dmitry; Mathiassen, Geir; Matsuzaka, Shigeru; McCarthy, Dennis; Melnikov, Alexey; Messerschmitt, Linda; Mikhailov, Andrey; Miller, Natalia; Mitchell, Donald; Mora-Diaz, Julian Andres; Mueskens, Arno; Mukai, Yasuko; Nanni, Mauro; Natusch, Tim; Negusini, Monia; Neidhardt, Alexander; Nickola, Marisa; Nicolson, George; Niell, Arthur; Nikitin, Pavel; Nilsson, Tobias; Ning, Tong; Nishikawa, Takashi; Noll, Carey; Nozawa, Kentarou; Ogaja, Clement; Oh, Hongjong; Olofsson, Hans; Opseth, Per Erik; Orfei, Sandro; Pacione, Rosa; Pazamickas, Katherine; Pedreros, Felipe; Petrachenko, William; Pettersson, Lars; Pino, Pedro; Plank, Lucia; Ploetz, Christian; Poirier, Michael; Popelar, Joseph; Poutanen, Markku; Qian, Zhihan; Quick, Jonathan; Rahimov, Ismail; Redmond, Jay; Reid, Brett; Reynolds, John; Richter, Bernd; Rioja, Maria; Romero-Wolf, Andres; Ruszczyk, Chester; Salnikov, Alexander; Sarti, Pierguido; Schatz, Raimund; Scherneck, Hans-Georg; Schiavone, Francesco; Schmid, Ralf; Schreiber, Ulrich; Schuh, Harald; Schwarz, Walter; Sciarretta, Cecilia; Searle, Anthony; Sekido, Mamoru; Seitz, Manuela; Shabala, Stanislav; Shao, Minghui; Shibuya, Kazuo; Shu, Fengchun; Sieber, Moritz; Skjaeveland, Asmund; Skurikhina, Elena; Smolentsev, Sergey; Smythe, Dan; Soja, Benedikt; Sombra, Adeildo; Sousa, Don; Sovers, Ojars; Spitzak, John; Stanford, Laura; Stanghellini, Carlo; Steppe, Alan; Strand, Rich; Sun, Jing; Surkis, Igor; Takashima, Kazuhiro; Tafeukji, Kazuhiro; Takiguchi, Hiroshi; Tamura, Yoshiaki; Tanabe, Tadashi; Tanir, Emine; Tao, An; Tateyama, Claudio; Teke, Kamil; Thomas, Cynthia; Thorand, Volkmar; Thornton, Bruce; Tierno Ros, Claudia; Titov, Oleg; Titus, Mike; Tomasi, Paolo; Tornatore, Vincenzo; Trigilio, Corrado; Trofimov, Dmitriy; Tsutsumi, Masanori; Tuccari, Gino; Tzioumis, Tasso; Ujihara, Hideki; Ullrich, Dieter; Uunila, Minttu; Veillette, Daniel; Venturi, Tiziana; Vespe, Francesco; Vityazev, Veniamin; Volvach, Alexander; Vytnov, Alexander; Wang, Guangli; Wang, Jinqing; Wang, Lingling; Wang, Na; Wang, Shiqiang; Wei, Wenren; Weston, Stuart; Whitney, Alan; Wojdziaik, Reiner; Yatskiv, Yaroslav; Yang, Wenjun; Ye, Shuhua; Yi, Sangoh; Yusup, Aili; Zapata, Octavio; Zeithoefler, Reinhard; Zhang, Hua; Zhang, Ming; Zhang, Xiuzhong; Zhao, Rongbing; Zheng, Weimin; Zhou, Ruixian; Zubko, Nataliya (2015): The IVS data input to ITRF2014. International VLBI Service for Geodesy and Astrometry, GFZ Data Services. <http://doi.org/10.5880/GFZ.1.1.2015.002>

Files

[sinex_v2.0_documentation_pdf.zip](#) 85.0 Kb 
[Data download via OPAR \(FTP\)](#)
[Data download via BKG \(FTP\)](#)
[Data download via CDDIS \(FTP\)](#)
[Data download via the Combination Centre IVS](#)

License

CC BY 4.0

Abstract

Very Long Baseline Interferometry (VLBI) is a primary space-geodetic technique for determining precise coordinates on the Earth, for monitoring the variable Earth rotation and orientation with highest precision, and for deriving many other parameters of the Earth system. The International VLBI Service for Geodesy and Astrometry (IVS, <http://ivscc.gsfc.nasa.gov/>) is a service of the International Association of Geodesy (IAG) and the International Astronomical Union (IAU). The datasets published here are the results of individual Very Long Baseline Interferometry (VLBI) sessions in the form of normal equations in SINEX 2.0 format (<http://www.iers.org/IERS/EN/Organization/AnalysisCoordinator/SinexFormat/sinex.html>, the SINEX 2.0 description is attached as pdf) provided by IVS as the input for the next release of the International Terrestrial Reference System (ITRF): ITRF2014. This is a new version of the ITRF2008 release (Böckmann et al., 2009).

For each session/ file, the normal equation systems contain elements for the coordinate components of all stations having participated in the respective session as well as for the Earth orientation parameters (x-pole, y-pole, UT1 and its time derivatives plus offset to the IAU2006 precession-nutation components dX, dY (https://www.iau.org/static/resolutions/IAU2006_Resol1.pdf). The terrestrial part is free of datum. The data sets are the result of a weighted combination of the input of several IVS Analysis Centers. The IVS contribution for ITRF2014 is described in Bachmann et al (2015), Schuh and Behrend (2012) provide a general overview on the VLBI method, details on the internal data handling can be found at Behrend (2013).

Contact

[Heinkelmann, Robert](#); GFZ German Research Centre for Geosciences;

Contributors

Thaller, Daniela; IVS; Deutsches GeoForschungsZentrum GFZ; Ulbricht, Damian; Elger, Kirsten

Keywords

Very Long Baseline Interferometry, VLBI, International VLBI Service for Geodesy and Astrometry, IVS, International Terrestrial Reference Frame, ITRF2014, Earth Orientation Parameters, EOP, precession, nutations, Earth rotation, dUT1, length of day, LOD, polar motion, IVS-SINEX-ITRF2014

GCMD Science Keywords

EARTH SCIENCE > SOLID EARTH > GEODETICS
 EARTH SCIENCE > SOLID EARTH > GEODETICS > COORDINATE REFERENCE SYSTEM > GLOBAL COORDINATE REFERENCE SYSTEM

More Metadata

iso19115: [view inline](#) / [download xml](#)
 datacite: [view inline](#) / [download xml](#)
 dif: [view inline](#) / [download xml](#)
 escidoc: [view inline](#) / [download xml](#)

Dataset Description

Documented by

[Bachmann, S., Messerschmitt, L., & Thaller, D. \(2015\). IVS Contribution to ITRF2014. International Association of Geodesy Symposia, 47–52. doi:10.1007/1345_2015_136](#)

Related Work

New Version of

[Böckmann, S., Artz, T., & Nothnagel, A. \(2009\). VLBI terrestrial reference frame contributions to ITRF2008. Journal of Geodesy, 84\(3\), 201–219. doi:10.1007/s00190-009-0357-7](#)

References

[Schuh, H., & Behrend, D. \(2012\). VLBI: A fascinating technique for geodesy and astrometry. Journal of Geodynamics, 61, 68–80. doi:10.1016/j.jog.2012.07.007](#)

[Behrend, D. \(2013\). Data Handling within the International VLBI Service. Data Science Journal, 12\(0\), WDS81–WDS84. doi:10.2481/dsj.wds-011](#)

<http://www.iers.org/IERS/EN/Organization/AnalysisCoordinator/SinexFormat/sinex.html>

<http://www.iers.org/IERS/EN/Publications/TechnicalNotes/tn36.html>

https://www.iau.org/static/resolutions/IAU2006_Resol1.pdf

Find More Research Data

<http://bib.telegrafenberg.de/finden/datenbanken/forschungsdaten/>

