

## High resolution OSL and post-IR IRSL dating of the last interglacialeglacial cycle at the Sanbahuo loess site (northeastern China) - DTU Orbit (08/11/2017)

### High resolution OSL and post-IR IRSL dating of the last interglacialeglacial cycle at the Sanbahuo loess site (northeastern China)

Northeastern China is located in the East Asian monsoon region; it is sensitive to both high and low latitude global climate systems. Loess deposits in the region have considerable potential as sensitive archives of past climate changes. However, research into loess deposition and climate change in this region is restricted by the lack of independent age control. In this study, coarse-grained quartz SAR OSL and K-feldspar post-IR infrared (IR) stimulated luminescence (post-IR IRSL; pIRIR<sub>290</sub>) methods have been used to date the Sanbahuo loess site in northeastern China. The quartz OSL characteristics are satisfactory. The measured pIRIR<sub>290</sub> D<sub>e</sub>'s do not vary significantly with IR stimulation temperatures between 50 °C and 260 °C; a first IR stimulation temperature of 200 °C was adopted. Dose recovery tests were performed by adding different laboratory doses to both laboratory bleached (300 h SOL2) samples and natural samples; the results are satisfactory up to ~800 Gy. Resulting quartz OSL and feldspar pIRIR<sub>290</sub> ages are in good agreement at least back to ~44 ka; beyond this feldspar pIRIR<sub>290</sub> ages are older. The feldspar ages are consistent with the expected age of the S1 palaeosol (MIS 5). There appears to have been a period of fast loess deposition at ~62 ka, perhaps indicative of winter monsoon intensification with a very cold and dry climate that lead to a serious desertification of dunefields in northeastern China. © 2015 Elsevier B.V. All rights reserved.

#### General information

State: Published

Organisations: Center for Nuclear Technologies, Radiation Physics, Nanjing University, Aarhus University

Authors: Yi, S. (Ekstern), Buylaert, J. (Intern), Murray, A. (Ekstern), Thiel, C. (Intern), Zeng, L. (Ekstern), Lu, H. (Ekstern)

Pages: 200-206

Publication date: 2015

Main Research Area: Technical/natural sciences

#### Publication information

Journal: Quaternary Geochronology

Volume: 30

Issue number: Part B

ISSN (Print): 1871-1014

Ratings:

BFI (2017): BFI-level 1

Web of Science (2017): Indexed yes

BFI (2016): BFI-level 1

Scopus rating (2016): CiteScore 2.3 SJR 1.703 SNIP 0.949

Web of Science (2016): Indexed yes

BFI (2015): BFI-level 1

Scopus rating (2015): SJR 2.067 SNIP 1.336 CiteScore 3.22

Web of Science (2015): Indexed yes

BFI (2014): BFI-level 1

Scopus rating (2014): SJR 1.941 SNIP 1.227 CiteScore 2.86

Web of Science (2014): Indexed yes

BFI (2013): BFI-level 1

Scopus rating (2013): SJR 2.439 SNIP 1.354 CiteScore 2.89

ISI indexed (2013): ISI indexed yes

Web of Science (2013): Indexed yes

BFI (2012): BFI-level 1

Scopus rating (2012): SJR 2.742 SNIP 1.865 CiteScore 3.77

ISI indexed (2012): ISI indexed yes

Web of Science (2012): Indexed yes

BFI (2011): BFI-level 1

Scopus rating (2011): SJR 2.493 SNIP 1.57 CiteScore 3.29

ISI indexed (2011): ISI indexed yes

BFI (2010): BFI-level 1

Scopus rating (2010): SJR 1.472 SNIP 1.651

Web of Science (2010): Indexed yes

BFI (2009): BFI-level 1

Scopus rating (2009): SJR 1.939 SNIP 1.274

BFI (2008): BFI-level 1

Scopus rating (2008): SJR 1.273 SNIP 1.049

Scopus rating (2007): SJR 0.866 SNIP 0.98

Original language: English

Northeastern China, Loess, Quartz OSL, Post-IR IRSL

DOIs:

[10.1016/j.quageo.2015.02.013](https://doi.org/10.1016/j.quageo.2015.02.013)

Publication: Research - peer-review › Conference article – Annual report year: 2015