

## Age of a prehistoric "Rodedian" cult site constrained by sediment and rock surface luminescence dating techniques - DTU Orbit (08/11/2017)

### Age of a prehistoric "Rodedian" cult site constrained by sediment and rock surface luminescence dating techniques

The construction age of a pavement in a "Rodedian" prehistoric cult site in Negev desert, Israel, is established by determining the burial age of (i) a cobble used in the pavement, and (ii) the underlying sediment. The quartz OSL age and the K-feldspar corrected IR50 age from the sediment and the corrected IR50 and pIRIR225 ages from the cobble surface are all consistent, and give an average age of  $4.22 \pm 0.06$  ka. Although the very similar ages indicate the reliability of the methods, these ages are  $\sim 3e4$  ka younger than that expected for the Rodedian sites. The IR50 and pIRIR225 luminescence-depth profiles from the cobble indicate multiple exposure and burial events in the depositional history. The apparently young ages may thus represent a later intervention in the site during the late 3rd millennium B.C. More sites need to be dated by the use of both rocks and sediments to confirm this suggestion. Important information on the bleaching history of the rock surfaces directly obtained from these luminescence depth profiles is not available in the underlying unconsolidated sediments. This is a significant advantage of rock surface dating over more conventional sediment dating. © 2015 Elsevier B.V. All rights reserved.

### General information

State: Published

Organisations: Center for Nuclear Technologies, Radiation Physics, Dead Sea-Arava Science Center, Aarhus University, Geological Survey of Israel

Authors: Sohbaty, R. (Intern), Murray, A. (Ekstern), Porat, N. (Ekstern), Jain, M. (Intern), Avner, U. (Ekstern)

Pages: 90-99

Publication date: 2015

Main Research Area: Technical/natural sciences

### Publication information

Journal: Quaternary Geochronology

Volume: 30

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

Quartz, Feldspar, OSL, IRSL, Rock surface dating, Luminescence-depth profile, Light attenuation

Electronic versions:

Sohbati\_et\_al.\_in\_press\_.pdf. Embargo ended: 08/09/2017

DOIs:

[10.1016/j.quageo.2015.09.002](https://doi.org/10.1016/j.quageo.2015.09.002)

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