Geophysical data from the Lockne Structure, Jämtland, Sweden

SND-ID: 2023-155. **Version**: 1. **DOI**: https://doi.org/10.5878/mqt8-x135

Download data

2013_2_n-s_topo.dat *(592.43 KB)*
2013_3_n-s_topo.dat *(271.06 KB)*
2014_1_s-n_topo.dat *(394.18 KB)*
2014_2_n-s_topo.dat *(178.31 KB)*
2014_3a_n-s_topo_2.dat *(149.96 KB)*
2014_3b_n-s_topo.dat *(228.01 KB)*
2015_1_v-e_topo.dat *(350.02 KB)*
2015_2_s-n_topo.dat *(108.8 KB)*
2015_3_e-v_0_topo.dat *(230.39 KB)*
2016_1_ny_start_filt_topo.dat *(263.91 KB)*
2016_2_0_filt_topo.dat *(86.18 KB)*

Associated documentation

2013-2-info.txt *(248 bytes)*
2013-3-info.txt *(247 bytes)*
2014-1-info.txt *(127 bytes)*
2014-2-info.txt *(129 bytes)*
2014-3a-info.txt *(233 bytes)*
2014-3b-info.txt *(285 bytes)*
2015-1-info.txt *(242 bytes)*
2015-2-info.txt *(210 bytes)*
2015-3-info.txt *(193 bytes)*
2016-1-info.txt *(252 bytes)*
2016-2-info.txt *(183 bytes)*
Sturkell_etal_maps.pdf *(432.02 KB)*
Sturkell_etal_Supplementary_info.pdf *(1.51 MB)*

Download all files

2023-155-1.zip *(~4.72 MB)*

Citation

Sturkell, E., Ormö, J., Austin Hegardt, E., Stockmann, G., Meland, E., & Wikström, T. (2023) Geophysical data from the Lockne Structure, Jämtland, Sweden (Version 1) [Data set]. University of Gothenburg. Available at: https://doi.org/10.5878/mqt8-x135

Creator/Principal investigator(s)

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Research principal

University of Gothenburg - Department of Earth Sciences

Description

Resistivity data
The resistivity data were collected with an ABEM Terrameter LS-CVES instrument along eleven profiles of variable length from 400 m to 1600 m. The distance between the electrodes was 5 m and a roll along strategy was adapted for longer profiles than 400 m. To correct for the effect of topography each profile was levelled by using a Sokkisha C3E. Profiles close to a benchmark altitude point from the Geodetic Survey of Sweden get correct absolute values, but for most of the profiles a perfect tie to a benchmark point was not possible. In these cases, the Lidar-height model was used. However, the relative height differences along all profiles are correct with centimetre precision. The resistivity measurements were performed during the summers 2013 to 2016 by Erik Sturkell, Jens Ormö, Eric Hegardt, Gabrielle Stockmann, Erik Meland, Åsa Frisk and Pierre Etienne Martin.
Data processing was made with the software Res2Dinv version 3.5 from Geotomo Software and the result is presented in a pseudo section. Data for the Res2Dinv processing, the number of iterations runed and what the absolute error are given in supplementary information table S02 (which is also included in the repository).
After the processed resistivity data were corrected for the topography, the results are presented in pseudo profiles along with interpretations shown in Figure 5a-c (main article), and additional data are available in the Supplementary information (which is also included in the repository). The processed resistivity data were sorted into ranges and connected to respective lithology. To present a calculation and inversion of electrical measurements as function of position (x, y, z) and electrode separation, the apparent resistivity is presented in a so called pseudo section.

Data contains personal data

No

Language

English

Time period(s) investigated

2013-07-01 – 2016-08-31

Data format / data structure

Numeric

Text

Data collection 1

- Mode of collection: Participant field observation
- Description of the mode of collection: Electrical resistivity
- Time period(s) for data collection: 2013-07-01 – 2016-08-31
- Instrument: ABEM Terrameter LS-CVES (Technical instrument(s)) - Measurement of electrical resistance over a distance which is resistivity

Data collection 2

- Mode of collection: Participant field observation
- Description of the mode of collection: Levelling
- Time period(s) for data collection: 2013-07-01 – 2016-08-31
- Instrument: Sokkisha C3E (Technical instrument(s)) - Automatic level surveyor

Geographic spread

Geographic location: Lockne Parish

Geographic description: Lockne 7.5 km wide impact structure, 20 km S of the town of Östersund, Sweden

Responsible department/unit

Department of Earth Sciences

Research area

Geology (Standard för svensk indelning av forskningsämnen 2011)

Geophysics (Standard för svensk indelning av forskningsämnen 2011)

Keywords

Earth science, Geophysics

Publications

Sturkell, E., Ormö, J., Hegardt, E. A., Stockmann, G., Meland, E., & Wikström, T. (2023). The proximal ejecta around the marine-target Lockne impact structure, Sweden. Journal of Geophysical Research: Planets, 128, e2023JE007777. https://doi.org/10.1029/2023JE007777
DOI: https://doi.org/10.1029/2023JE007777

Polygon (Lon/Lat)

14.619799, 62.943981

14.963121, 62.943981

14.963121, 63.082949

14.619799, 63.082949

14.619799, 62.943981

Accessibility level

Access to data through SND
Data are freely accessible

Use of data

Things to consider when using data shared through SND

Versions

Version 1. 2023-07-06

Contact for questions about the data

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Download metadata

DataCite

DDI 2.5

DDI 3.3

DCAT-AP-SE 2.0

JSON-LD

PDF

Citation (CSL)

File overview (CSV)

Published: 2023-07-06
Last updated: 2023-08-22