

EGU25-17504, updated on 22 Apr 2026
<https://doi.org/10.5194/egusphere-egu25-17504>
EGU General Assembly 2025
© Author(s) 2026. This work is distributed under the Creative Commons Attribution 4.0 License.



Post-processing based on EGMS Sentinel-1 InSAR products for mining applications

Anna Reichstein and Kalia Andre Cahyadi

Federal Institute for Geosciences and Natural Resources, Geo-hazard Assessment, Remote Sensing, Germany
(anna.reichstein@bgr.de)

Spaceborne interferometric SAR (InSAR) has been proven to provide displacement measurements with millimeter-per-year precision over large areas. Since the start of operations of the Copernicus European Ground Motion Service (EGMS) in 2022 these InSAR products have been routinely produced and made freely available for Europe. These products consist of millions of measurement points, making visual inspection challenging.

Within the EU Horizon project GoldenRAM, InSAR post-processing techniques are investigated. The goal is to improve mining safety by providing an easy-to-use open-source service that facilitates timely monitoring of open pit and tailings dam stability at active and closed mines, utilising the EGMS products.

The aim of this work is to develop a workflow for i) ingestion of EGMS data, ii) post-processing of EGMS data to automatically extract relevant information, and iii) visualisation of the results on an online platform. To demonstrate this work, examples are provided from an active multi-metal mine in Kevitsa, located in northern Finland.

The GoldenRAM project is funded by the European Union under Grant Agreement No. 101138153.