

# Satellite Data – Application for Earthquake Deformations in the Balkan Peninsula

Tuesday, 20 June 2023 10:29 (1 minute)

The use of synthetic aperture radar (SAR) data is a powerful and well established method for remote sensing that enables high resolution measurement of important geophysical parameters such as surface topography, deformation or subsidence of the surface as a result of various processes (earthquakes, tectonic activity, movements of glaciers, mining activity, etc.). The present study illustrates the InSAR technique applied for recent M6+ earthquakes in the region of south-east Europe including Greece and Turkey. Data from both Sentinel-1A and -1B is used. This constellation shares the same orbit plane and include C band imaging operating in four exclusive imaging modes with different resolution (down to 5 m). As a results interferograms and deformation maps are build using SNAP and ArcGIS software. For each deformation map a profile plot of the displacement is depicted. The obtained results can be used in the evaluation of the earthquake deformations supplemented with geological and geophysical information.

*Acknowledgements:* This study is conducted within project “Analysis of seismic sources using InSAR satellite data for the Balkan Peninsula region” funded by the National Scientific Program “Young Scientists and Postdoc-2”, 2022 by Ministry of Education and Science of Republic of Bulgaria.

## E-mail

lyuba\_dimova@phys.uni-sofia.bg

## Promotional text

The present study illustrates the InSAR technique applied for recent M6+ earthquakes in the region of south-east Europe including Greece and Turkey.

## Oral preference format

**Primary authors:** DIMOVA, Lyuba (Sofia University “St. Kliment Ohridski”); RAYKOVA, Reneta (Sofia University “St. Kliment Ohridski”); Ms ATANASOVA-ZLATAREVA, Mila (National Institute of Geophysics, Geodesy and Geography, Bulgarian Academy of Sciences)

**Presenter:** DIMOVA, Lyuba (Sofia University “St. Kliment Ohridski”)

**Session Classification:** Lightning talks: P1.2-1, P3.1, P3.4, P4.5

**Track Classification:** Theme 3. Monitoring and On-Site Inspection Technologies and Techniques: T3.4 Integrating Data from Different Monitoring Technologies