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**ANALYZING THE DEFORMATIONS OF BODRUM–KOS
EARTHQUAKE**

(JULY 20, 2017 22:31 UTC, MW 6.6)

WITH INSAR METHOD

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ABSTRACT:

On July 20, 2017 22:31 UTC (01:31 local time), the shallow earthquake occurred offshore the island of Kos, south-east Aegean Sea, with Mw 6.6. In the both north and the south parts of the Gökova gulf, which were affected by Bodrum-Kos earthquake, are surrounded by Gökova Fault Zone (slopes to the south, EW extends of 180 km) and Datça and Selimiye fault lines (slopes to the north); therefore, this region shows intense seismic activities.

On the purpose of detecting the deformations stem from the strong earthquake, the geodetic data, before and after earthquake, were analyzed in this study. For the study purpose, the Interferometric Synthetic Aperture Radar (InSAR) technique was used. The data was acquired from ESA's website. Hence the data were processed by the SNAP software. The model was constructed by the geodetic data from Sentinel-1B, Interferometric Wide swath acquisition mode (IW), Single Look Complex (SLC) products. After processing the data, unwrapped interferograms created, more details on the processing steps are provided in the study.

Comparing the obtained outputs from these analyses with the independent result from the NOA (National Observatory of Athens) Center, the differences were found within the uncertainty limits.

Accordingly the responsible fault was confirmed as 25 km long normal fault and offshore the Kara Islet. And surface deformation found as reaching about 10 cm at Bodrum vicinity. The results confirmed the other studies in literature that were carried out on Bodrum–Kos Earthquake (July 21, 2017 01:31 Local Time, Mw 6.6) so far.

KEYWORDS: Deformation, InSAR, SNAP, Interferogram, Sentinel 1B, Bodrum-Kos Earthquake.

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