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## Coseismic and Postseismic Deformation of the January 24, 2020 Sivrice (Elazig) Earthquake Under the Constrain of Geodetic Observations

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January 24, 2020 Sivrice earthquake (Mw 6.8), which is the largest along the East Anatolian Fault (EAF) over the last century, is providing a wealth of information on the mechanics of transform faulting and for monitoring the different phases of the last seismic cycle. In this study, we aim to estimate coseismic and postseismic surface deformation along the Sivrice earthquake rupture and determine the strain accumulations on Pütürge segment by combining InSAR and GNSS measurements. The area was described one of the major seismic gaps along the EAF and we have started to study from Palu to Sivrice segments of the EAF, since 2015. Near field survey GNSS network has been established since 2015 and measured two times in a year, until 2021. Besides, after the earthquake, we surveyed 60% of near field sites to contain the coseismic field within 2-3 days. This dataset analyzed with continuous GNSS stations around the region to control the far field of the deformation field. Additionally, this dataset is densified by InSAR deformation field. For this purpose, the stack of interferograms have been interpreted from descending orbit Sentinel-1 dataset, composed of 6 days interval SAR acquisitions that starts from January 2020 to June 2020 which covers the earthquake time. As a result, significant differences between the pattern of strain accumulation before and after earthquake are documented with both GNSS and InSAR data. Moreover, the signature of the postseismic deformations is presented for 6 months.

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Keywords: Sivrice earthquake, EAF, coseismic, postseismic, InSAR, GNSS