

Interactive comment on “Seismicity related to the eastern sector of Anatolian escape tectonic: the example of the 24 January 2020 Mw 6.77 Elazığ-Sivrice earthquake” by Mohammadreza Jamalreyhani et al.

Anonymous Referee #1

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The study presents a detailed analysis and interpretation of the 2020 January 24 Mw 6.7 The Elazığ-Sivrice earthquake. The study presents a full geodetic and seismological analysis of the source rupture and the peripheral seismicity including foreshocks and aftershocks.

Coulomb stress and seismicity pattern – Interestingly, the south part of the fault has no aftershocks. This seismic quiescence is puzzling even more due to the prediction of the Coulomb stress analysis and the symmetry in the InSar data from both sides of the fault supporting that surface deformation took place at the south. Do you have

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explanation for that behavior?

Specific comments: L. 24 – Please use quantitative rather than “small” for the described foreshock cluster L. 29 – Please explain how the statement for shallow locking depth corresponds with the seismicity range presented in Fig. 1 (0 – 30 km) L. 118 – Please explain the usage of strong motion sensors to capture low frequency signal L.131 – Did the earthquake rupture to the surface? This is not clear L. 206 – It is not clear to me how did you conclude that the mainshock nucleated from the topper part of the fault plane from Fig. 3b. Please elaborate. L. Fig. S5 – This is a very nice presentation of a unilateral rupture. I think it should be included in the main text. Please also consider presenting the seismic traces with azimuth to support the apparent duration measurement.

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