Co-seismic deformation and preliminary fault model of the M6.4 Durres (Albania) Nov. 26, 2019 earthquake, based on space geodesy observations

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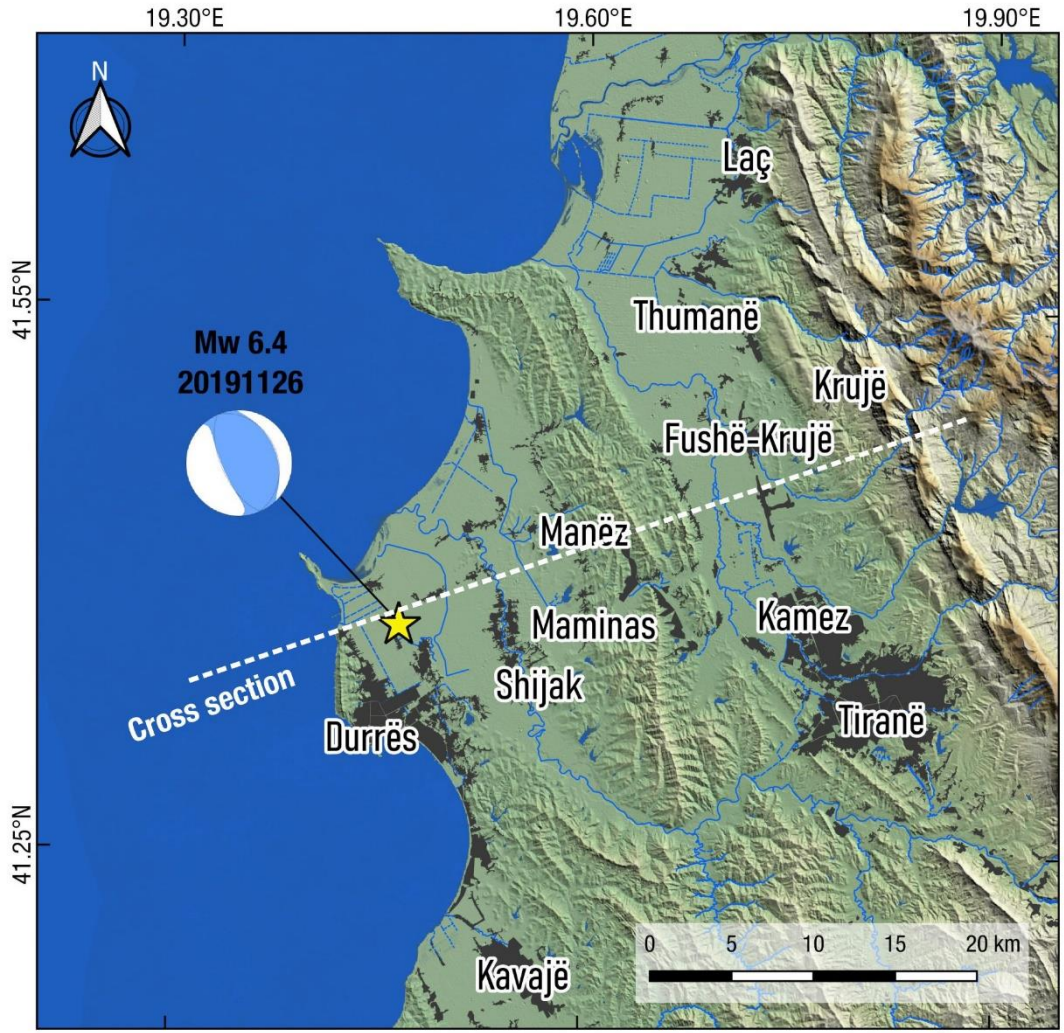
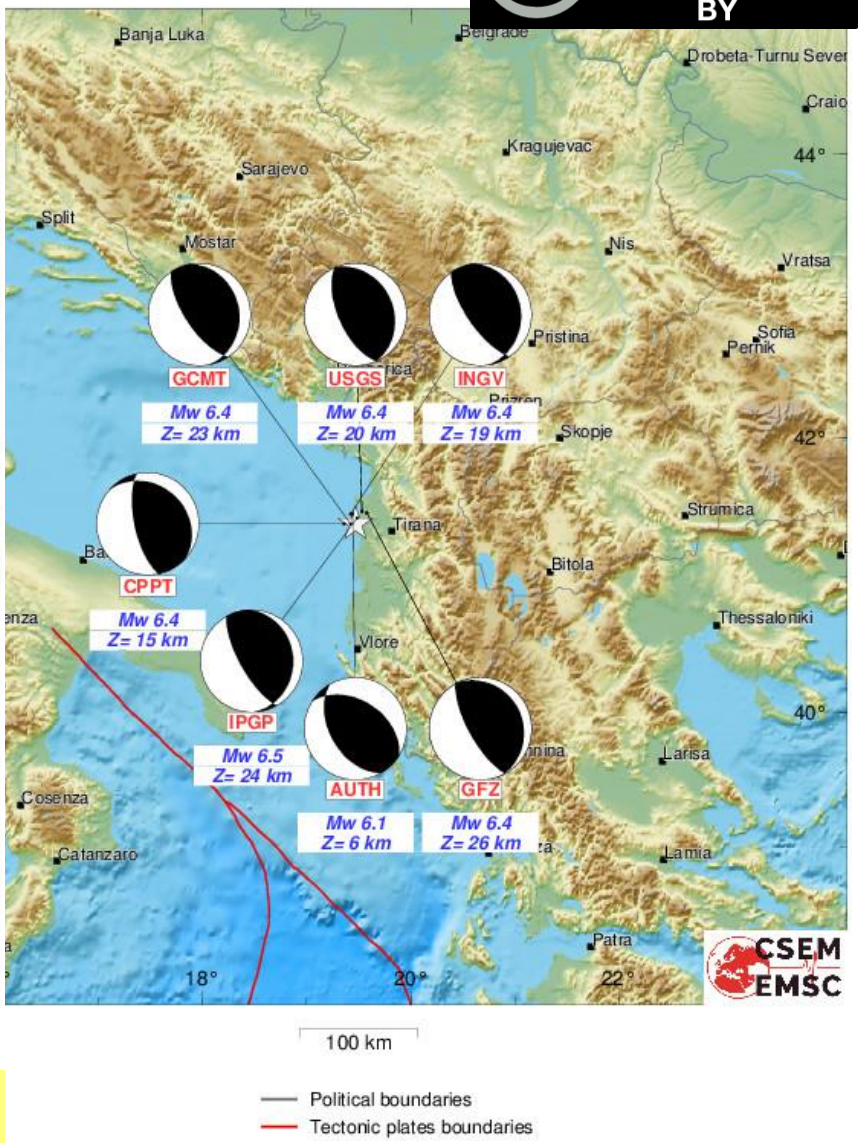
Talk Summary

1. We identify the main source of the M6.4 earthquake that rocked north-central Albania on November 26, 2019 to be located within the frontal area of the basal thrust of the Dinaric-Hellenic orogen
2. The seismic structure is the low-angle thrust fault (22 by 11 km; length-width) that dips towards east (23°)
3. Geodetic data GNSS & InSAR mapped ground motion to the SW and UP in agreement with MT solutions indicating compression
4. Geodetic data helped locate the epicentre better as seismology failed because of network problems.





Seismological data indicate compressional focal mechanism

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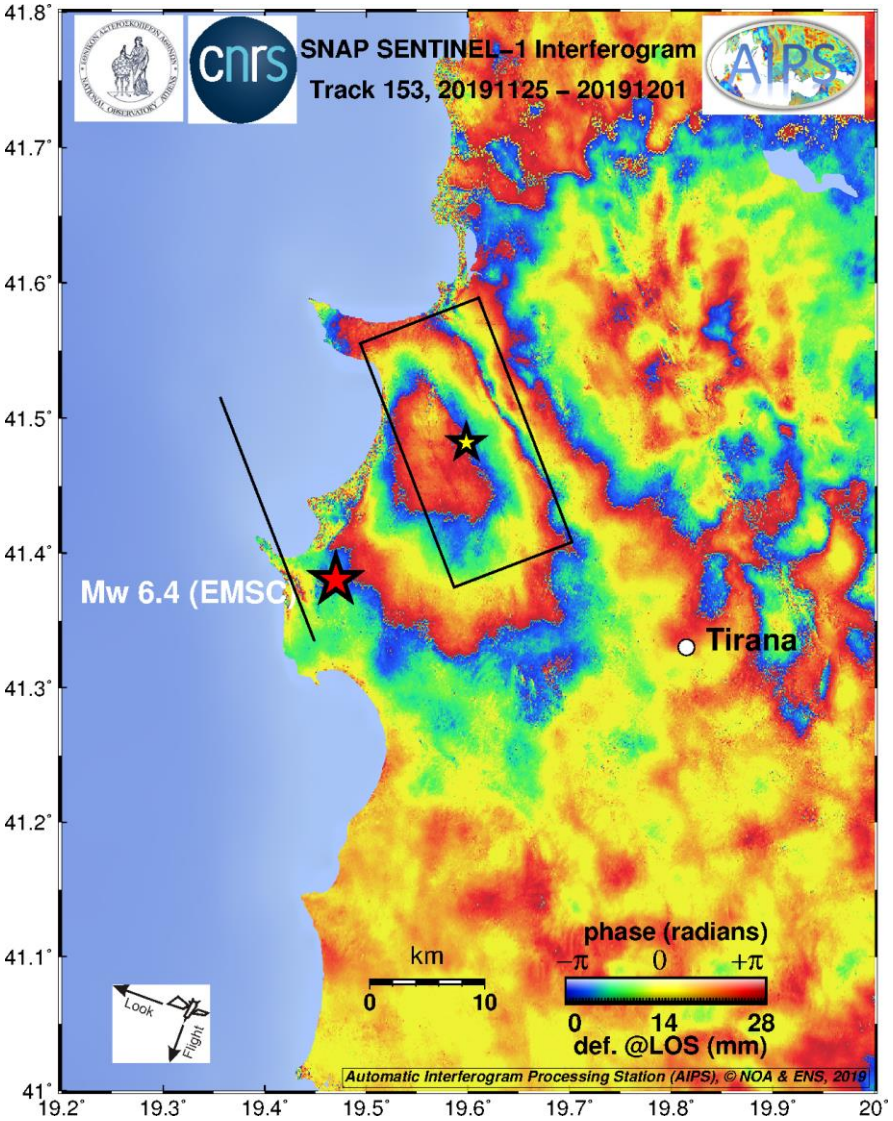

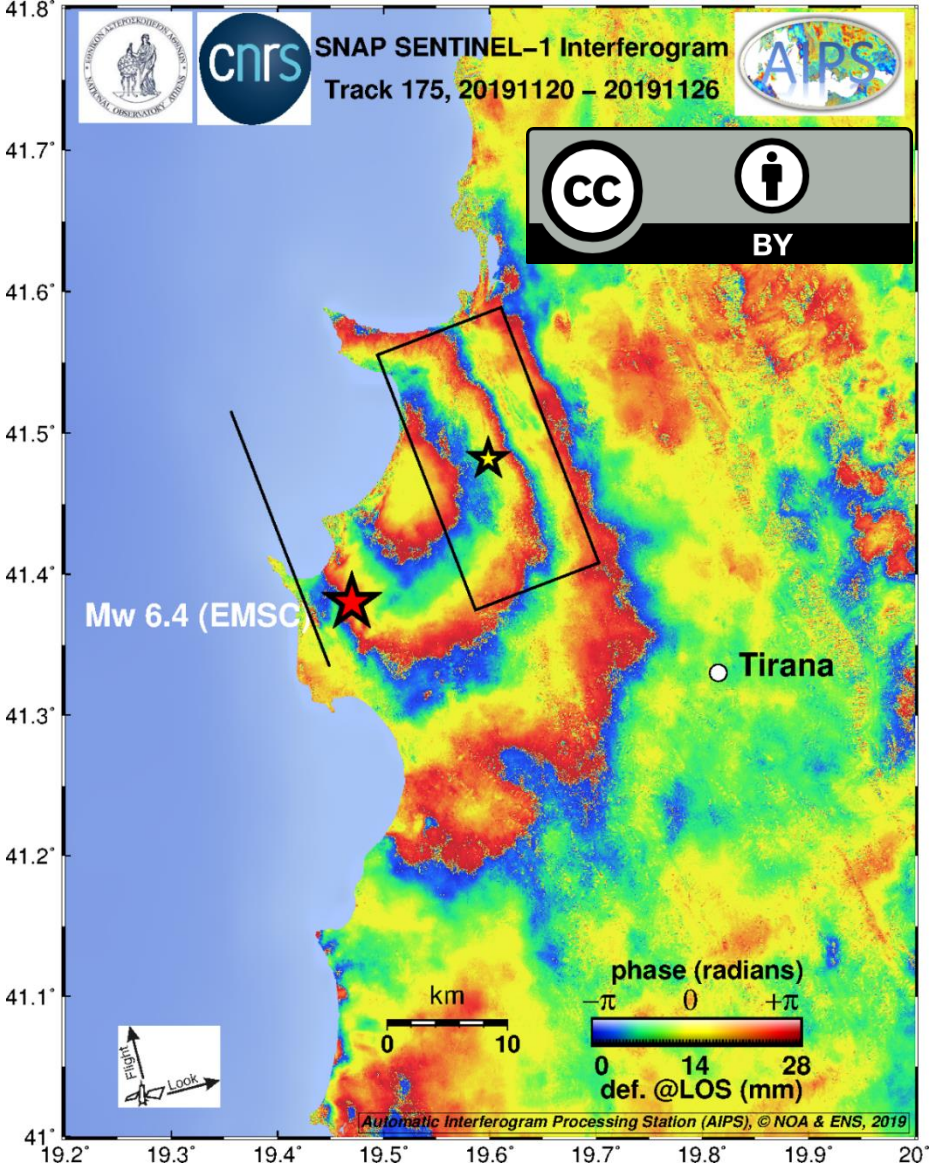

The InSAR fringe pattern shows a 45-km long, NW-SE arrangement of three (3) fringes with a maximum LOS displacement of about +8.4 cm near the village Hamallaj (15 km NE of Durres).

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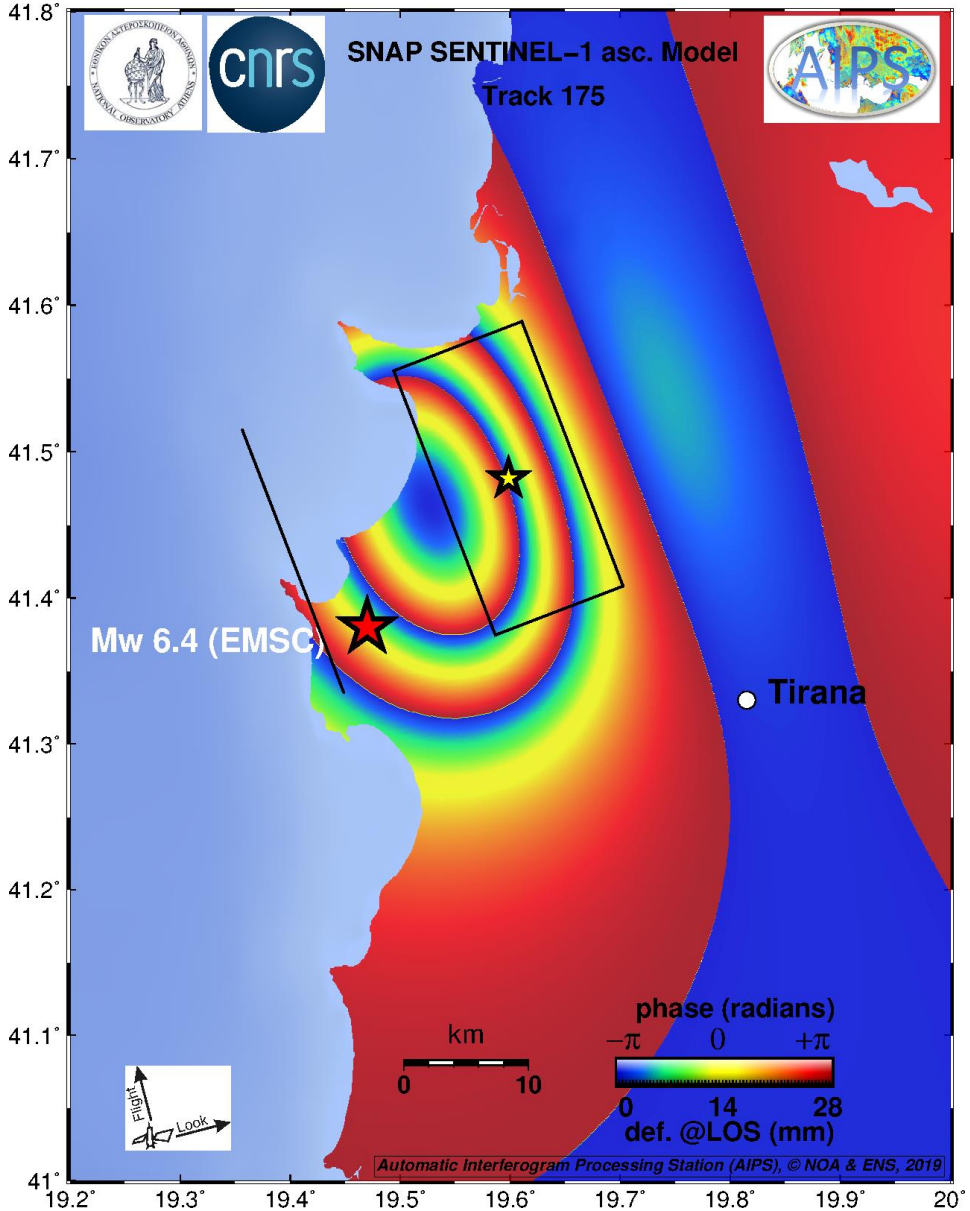

The geodetic fault-model (black rectangle) is in agreement with published MT solutions showing a NNW-SSE fault plane (e.g. the USGS solution has attributes 337°/27°/91°; strike/dip-angle/rake angle). The geodetic centroid is located about 15 km to the NE of the EMSC epicentre

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