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propagation of seismic waves, misinformation and disinformation from the 2024-10-05 M 4.5 Iran earthquake

The 2024-10-05 Iran M 4.5 earthquake was a relatively unremarkable reverse-fault event, except that it took place at a time of heightened tensions in the Middle East. Its immediate aftermath saw widespread dissemination of misinformation, and potentially active disinformation, concluding that it was in fact a test of an Iranian nuclear weapon. The 'evidence' for many of these claims was based on inaccurate interpretation of seismic data. In this work, we analyse how geophysical 'fake news' propagated through social media (mainly Twitter/X) following this event, eventually gaining traction in mainstream, earned media. Although there were no significant geopolitical ramifications from the spread of this fake news, this event is nonetheless an illustrative warning of how seismic data can be misinterpreted and/or manipulated in public discourse.

E-mail

bfernan9@jh.edu

Primary authors: FERNANDO, Benjamin (Johns Hopkins University); FERNANDEZ, Brianna (Brown University); LABEDZ, Celeste (University of Chicago); KOENCK, Elizabeth (Georgetown University); EKSTRÖM, Göran (Lamont-Doherty Earth Observatory of Columbia University); MAGUIRE, Ross (University of Illinois at Urbana-Champaign); KARIMI, Saman (Johns Hopkins University); RIVLIN, Tom (Technische Universität (TU) Wien)

Presenter: FERNANDO, Benjamin (Johns Hopkins University)

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