



## **Triggered LP seismicity in geothermal fields and its implication on the characterization of the buried structures.**

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Local seismicity in geothermal fields is generally associated with perturbations of the pore pressure because of injection tests or fluid circulation during power plant operation. Besides, many geothermal regions are also prone to earthquake triggering as a result of transient stress variations caused by surface waves originated by strong regional earthquakes. To investigate possible changes in the seismicity rate in geothermal fields during and after the occurrence of regional strong earthquakes, we have analyzed seismic records following strong earthquakes ( $M_w > 7$ ) that have been acquired in the Los Humeros Caldera, Mexico.

In the framework of the GEMEX project (cooperation between Europe and Mexico for geothermal development), a dense network of 45 stations was installed in 2017/2018 in this caldera that hosts one of the largest geothermal power plants of the country. Thanks to this network an intense local seismic activity has been recorded in the geothermal field, from which it has been possible to identify high frequency events (VT,  $> 10$  Hz) and low frequency seismicity (LP, 1-8 Hz). The two sets of events have been spatially correlated with 3D seismic velocity models of the region in order to better characterize the structure of the geothermal field and identify regions where the fluids could have a role on the triggering of the observed seismicity.

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