



## **Active stress map update: new breakout data in southern Apennines, Italy**

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We present an updated active stress map with a focus on southern Apennines. From a tectonic point of view, the Apennines are a NE-verging thrust and fold belt characterized by a prevalent extensional tectonic regime. On the contrary, along the northern front of the belt from the Po Plain to the Adriatic offshore, compression is still active whereas in its southern part it seems stopped. Indeed, this area is well known as one of the most seismic zone in Italy, characterized by strong earthquakes in the past ( $M > 5.5$ ) showing an ongoing extensional tectonic regime with T-axis about NE-SW oriented. This is also evidenced by active fault patterns, borehole breakout data and geodetic data. Within this frame, the external area of the Apenninic belt, the foredeep and the Apulian foreland, shows a minor seismicity and a prevailing strike-slip tectonics. New borehole breakouts are inferred from wells ranging from 1400 to 5500m depth and are discussed in comparison to earthquake data and a few shallow stress regime indicators. We have analysed 45 new deep wells to better constrain the state of stress along the Apenninic belt and foredeep. Some of them are located along the Val d'Agri basin and show a prevalent NE-SW  $S_{\text{Hmin}}$  direction well consistent with previous results.

Recently a model of the Italian region has been performed using a thin-shell finite-element code. The model predicts long-term anelastic horizontal velocities, vertically integrated stresses, and fault slip rates. Thus, the final part of this work is dedicated to the discussion on the difference between model predictions and breakout data orientations.