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Present-day stress field in the surroundings of the Calabrian arc

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Present day stress fields in the Tyrrhenian area is the results of a complex interplay of various dynamic processes acting at various scales, either local and regional, such as Africa-Eurasia convergence and Calabrian subduction. In order to investigate the role played by each dynamic process in driving the tectonic and geodynamic setting of the area, we use a finite element approach applied on both a thermal model and a tectonic model. Predicted stress and strain in the Central Mediterranean area are compared to complementary data presently available in the area, such as geological, geophysical and geodetic data. The results of our modeling support the hypothesis that Africa-Eurasia convergence and Calabrian subduction are the controlling mechanism of the present-day stress field in the southernmost part of the Tyrrhenian.