

The north-east termination of the Algero-Provencian basin: deep crustal structure by aeromagnetic and geothermic data

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We show the results obtained by the 2,5D modelling of the deep crustal structure of the north-east termination of the Algero-Provencian basin, near the Eastern Ligurian coastline. The model is based on the integrated study of the magnetic anomaly field and the geothermal field. The low frequency anomaly spectral field shows heavy trends of negative anomalies corresponding to the high geothermal gradients areas. These geophysical evidences define the position of the highs of the Curie isotherm and characterize the Northern Tyrrhenian deep crustal structure. The mean depth of the magnetic basement is estimated by spectral techniques applied to the amplitude spectrum of the anomaly field. The localization of the magnetic discontinuities generated by more superficial sources, such as ophiolites, is obtained by means of horizontal derivatives geomagnetic anomaly field. The 2.5D model shows two hot zones separated by a cold area. The first hot area is interpreted as the result of an oceanization process while the second one is related to the north-western margin of the Tuscan geothermal field.

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