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# ABSTRACT BOOK

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# An evaluation of the seismic/geodetic deformation in the Sicily Channel (Italy)

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The Sicily Channel has been affected by extensional tectonic processes, since Late Miocene and mostly during the Pliocene which leaded to the development of a number of tectonic depressions (e.g. Pantelleria, Linosa and Malta troughs). These tectonic depressions have been interpreted as large and discrete pull-apart basins involving deep crustal levels that developed in front of the Africa-Eurasia collisional belt within a large dextral wrench zone The Sicily Channel is a region with a potentially moderate seismic and volcanic hazard, due to the occurrence, in the recent past, of volcanic eruptions sometimes accompanied by significant seismic swarms (Mmax $\leq$ 5).

In order to provide an improved picture of the seismic characteristics of the Sicily Channel, we compiled a seismic catalog by taking into account all information coming from available instrumental catalogues reports and instrumental data recorded covering the period 1981-2017. Moreover, taking advantage of the availability of a set of continuous GNSS stations installed along the southern Sicilian on-shore, we propose an improved picture of the current crustal deformation pattern over the investigated area. To this aim, we collected and analyzed all available data coming from the permanent GNSS stations installed across the Sicily Channel as well as the southern Sicilian onshore, spanning the 1999-2018 time interval. In addition, based on our GNSS and seismological observations, we provide a preliminary evaluation of the seismic/geodetic deformation-rate ratio for the investigated area.