

Acoustic emission and earthquake precursors

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It makes nonsense investigating floods with no adequate monitoring and investigation of the hydrologic regime of the river. It makes nonsense investigating seismic and other extreme geodynamic occurrences, with no adequate monitoring and investigation of the crustal stress propagation. We show how such rationale can be effectively implemented and practically exploited by means of acoustic emissions (AE; ultrasound range). We find observational information about earthquakes with several months advance and occurring within some wide area. We stress, however, that we perform crustal diagnosis, rather than earthquake prediction. We deal with different tectonic settings, i.e. the Italian peninsula, the Cephallonia Island (Greece), and South America (Argentina, Provinces of San Juan and Mendoza). Some regular patterns and time variations of AE are observed, in addition to the aforementioned phenomena associated with a forthcoming seismic event. The potential ought to be stressed upon investigating crustal stress on a continental or planetary scale, even by means of a sparse set of simultaneously operated AE recording sites