The AMR and the Revised AMR of large earthquakes

Angelo De Santis, Gianfranco Cianchini, and Rita Di Giovambattista
Istituto Nazionale di Geofisica e Vulcanologia, Rome, Italy

Accelerated seismicity is quite common during the preparation process of many large earthquakes. This accelerating seismicity can be detected by the techniques of Accelerated Moment Release (AMR) method and its recent Revised version (R-AMR) when they are applied to earthquake catalogues. The main aim of this study is to investigate the seismicity preceding large main-shocks and possibly increase our comprehension of the underlying physics. In particular, we applied both the AMR and R-AMR to the seismicity preceding many large worldwide earthquakes occurred from 2014 to 2016. We show the results from both methods showing their different capability to disclose (or highlight) the acceleration eventually present before the main-shock, and compare them with simulations to assess the validity of the found acceleration.