



Integrating and coordinating monitoring research infrastructures in Europe: a novel vision to foster new discoveries

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In the last decades several European projects (MEREDIAN and NERIES, among several others) and non-governmental organizations (e.g., ORFEUS, EMSC) have promoted and supported the integration and coordination of permanent monitoring infrastructures in seismology. This allowed the creation of a well-established infrastructure for data mining and assimilation, and facilities for data integration, archiving and exchange. However, in order to achieve further advances in the understanding of the physical processes governing earthquakes and faulting, we need to extend this vision to multidisciplinary data, to near-fault observations, to borehole observing systems, as well as to open new horizons toward interdisciplinary research including rock physics laboratory experiments and tectonics. This is the main motivation of EPOS, a proposal recently included in the updated roadmap for European research infrastructures (ESFRI). In this presentation, we aim to discuss the necessary efforts dedicated at creating a coherent Research Infrastructure enabling the next generation of scientists to pursue innovative and challenging solid Earth scientific research in Europe and in the Mediterranean regions. This vision motivated also the recent submission of an EC project (INSIGHT) that aims toward multidisciplinary coordination and integration of in-situ, near-fault observatories throughout Europe. In this presentation we will discuss the rationale and the necessary future steps toward this strategic implementation plan aimed at providing access to original data, transfer of knowledge to face challenging technological issues associated with multidisciplinary borehole near-fault observations as well as to integrate the observing systems in a well-established e-infrastructure.