

**SD7/P16/ID153 - EVOLUTION OF THE FRENCH PERMANENT BROADBAND NETWORK (RLBP) IN THE FRAMEWORK OF THE RESIF INFRASTRUCTURE**

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During the past decade a great effort has been carried out in several European countries to install permanent broadband seismic stations, leading now to more than 500 stations available to the community in the VEBSN (Virtual European Broadband Seismograph Network). In order to reach a more homogeneous station distribution in Western Europe, a requirement to use the VEBSN as an array for long period records, several French research institutes committed in 2008 to build a homogeneous network of ~ 50 broadband stations in metropolitan France named RLBP (Réseau Large Bande Permanent).

Since then, the number of broadband stations installed in France has increased from 17 to 30 and several sites have been modernized. This evolution results from the upgrade of the LDG (Laboratoire de Detection et de Géophysique) network and the involvement of academic institutes, notably through trans-border collaborations in the Alps and the Pyrenees (RISE and SISPy Interreg project).

The RLBP is now part of the French major research infrastructure RESIF (Réseau Sismologique Français). This important French contribution to EPOS (European Plate Observing system) is intended to build an integrated antenna to observe the solid earth at all time scales using various geophysical instrumentation (seismic, geodetic, gravimetry,...) deployed permanently or temporarily. In this framework, the RLBP, which is expected to be completed by 2012, will constitute the backbone of a multi scale seismic array in metropolitan France constituted by ~ 200 permanent velocimetric stations. Some sites will also include strong motion and GPS sensors. The proposed geometry for this array is optimized to allow major advances in the imaging of structures at all depths and in the knowledge of seismicity in and around France.