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Coordinated ground-based ULF and sub-ionospheric VLF seismo-electromagnetic investigations in Europe

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In order to differentiate seismo-electro-magnetic phenomena from other natural events, e.g. geomagnetic activity or ionospheric disturbances, a long-term analysis of single parameter electro-magnetic data before the earthquake is widely used.
We present a dual parameter method based on the coordinated observations of ground-based ULF and sub-ionospheric VLF phenomena before earthquakes.
A major emphasis is on the April 2009 L'Aquila earthquake using the ULF data of the South European Ground Magnetometer Array (SEGMA) and the radio-links of the European VLF/LF network.
The ULF observations are used to identify geomagnetic phenomena during seismic active periods found by the European VLF network.