



Development of the INGV tectonomagnetic network inside the MEM project

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Some electromagnetic phenomena on the Earth surface and in the atmosphere can be associated with tectonic and volcanic activity in the Earth crust. Volcanic eruptions and earthquakes can produce variations in the local geomagnetic field up to 10 nT. The Italian Istituto Nazionale di Geofisica e Vulcanologia (INGV) tectonomagnetic network was installed in central Italy since the middle of 1989 to investigate possible seismomagnetic effects related to earthquakes occurrences. The network is part of the INGV L'Aquila Geomagnetic Observatory and it is located in Central Italy in an area extending approximately between latitude 41.6°N and 42.8°N, and between longitude 13.0°E and 14.3°E. Here, we are reporting the actual state and the future developments of the network. At the present time, total geomagnetic field intensity data are collected in four stations using proton precession magnetometers. During 2007 the network will be supplied with other two stations developed inside the MEM Project (Interreg IIIA Adriatic Cross Border Programme) with the aim to thicken the network and to extend the research area. The leader partner of the MEM project is the Abruzzo Region. Each network station will be supplied with an Overhauser magnetometer and 3-axial magnetometer. Some tests, carried out to select the location of the new stations, are shown. Here we also report the 2006 dataset showing a different approach in the data analysis that takes into account the inductive effects on the total geomagnetic field intensity by means of the inter-station transfer functions.