Geophysical Research Abstracts
Vol. 12, EGU2010-2497, 2010
EGU General Assembly 2010

Present status and preliminary results of the VLF/LF radio recording European network installed in 2009

T. Maggipinto (1), P. F. Biagi (1), L. Castellana (1), A. Ermini (2), M. E. Contadakis (3), I. A. Moldovan (4), A. S. Moldovan (5), A. Buyuksarac (6), and M. Fiore (7)

(1) University of Bari, Department of Physics, Bari, Italy (t.maggipinto@fisica.uniba.it), (2) University of Roma Tor Vergata, Department of Mechanical Engineering, Rome, Italy, (3) University of Thessaloniki, Department of Surveying & Geodesy, Thessaloniki, Greece, (4) National Institute for Earths Physics, Seismological Department, Bucharest, Magurele, Romania, (5) AZEL-Designing Group Ltd., Bucharest-Magurele, Romania, (6) Department of Geophysical Engineering, Cumhuriyet University, Faculty of Engineering, Sivas, TR-58140, Turkey, (7) Elettronika s.r.l., Palo del Colle (Bari), Italy.

In January 2009 a European network of receivers able to measure the electric field intensity from various VLF/LF broadcasting stations located throughout Europe, was installed. Five new receivers constructed by an Italian enterprise have been delivered to Greece, Romania, Turkey and to the Italian team. The motivation of this effort is to study the possible connections between the preparatory phase of earthquakes and perturbations in the transmitted radio signals.
The receivers can be reached via ftp and gsm mobile connection, thus allowing a real time data collection. We present here the status of the network and the various testing steps performed in order to achieve a correct set up. We show how antennas variations, receivers locations and changes of selected frequencies affect the performances of the whole network.
After this necessary testing period, several LF/VLF radio signals are now simultaneously and continuously being sampled by the five receivers.
As a preliminary result we inspect also specific cases in which an anomaly in the radio signals is clearly related to the transmitter or to the receiver (e.g. meteorological conditions around the sampling site). At a basic level, the analysis adopted consists in a simple statistical evaluation of the signals by comparing the instantaneous values to the trend of the signal.