



Inter station transfer function analysis in Central Italy

P. Palangio(1), F. Masci(1), E. Lampis(2), C. Di Lorenzo(1), and M. Di Persio(1)

(1)Istituto Nazionale di Geofisica e Vulcanologia, Italy

(2)Geomagnetic System, Italy

(masci@ingv.it)

Since the end of 2007 a new Geomagnetic Observatory is in operation in Central Italy in the area of the village of Duronia ($41^{\circ}39'N$, $14^{\circ}28'E$, 910m a.s.l.). The observatory was created in the frame of the MEM (Magnetic and Electric fields Monitoring) Project and belongs to the INGV (Italian Istituto Nazionale di Geofisica e Vulcanologia) tectonomagnetic network located in the Central Apennines. Actually the network consists of two observatories, L'Aquila ($42^{\circ}23'N$, $13^{\circ}19'E$, 682 m a.s.l.) and Duronia, and of three stations. In the two observatories are measured the total magnetic field and its three components, whereas in the three stations is only measured the total magnetic field. Here we report the 2007 data set of the network. Moreover is tested a different approach in the data analysis taking into account the inductive effects by the evaluation of the magnetic Inter Station Transfer Function (ISTF) calculated between the components of the magnetic field simultaneously measured in the two observatories. To measure the components of the magnetic field are employed low noise search coil magnetometers. Monitoring the variation of the nine parameters obtained by the ISTF evaluation, we could obtain some information concerning the geodynamical processes observed in Central Italy.