



Transient electromagnetic phenomena associated with L'Aquila earthquake

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In this paper we analyze the transient phenomena recorded at L'Aquila Geomagnetic observatory during L'Aquila earthquake sequences. Impulsive changes of up 1 nT, few km from the rupture zone, followed by a transient decay lasting about several tens of seconds have been detected. These signals were recorded during the M=6.3 earthquake occurred on 6 April 2009. The magnetic field variation is characterized by a growth pulse of a few seconds followed by a slow decay.

During a seismic event can activate different physical processes which can produce electric fields and currents associated with the decay of pressure inside the rocks in the focal area. The magnetic field associated to the currents stimulated by the decay of stress during the earthquake could reach the earth surface with an amplitude higher than the background noise. Here we analyze the possible mechanisms generating the observed signals.