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Investigation of TEC and VLF space measurements associated to L'Aquila (Italy) earthquakes

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We report on TEC and VLF space measurements derived from GPS and DEMETER satellites, respectively. These measurements are associated to the earthquake (EQ), of a magnitude of 5.6, which occurred on 06th, April, 2009, in L'Aquila (Italy). Anomaly features are derived from the analysis of TEC and VLF observations recorded two weeks before and after the seismic event occurrence. A production of a TEC map with an interpolated regional 'pixel' resolution of 1°x1°x1h respectively in latitude, longitude and time was generated. This allows a check for a possible presence of disturbances over the L'Aquila region. This analysis is combined to the study of the time profile associated to the VLF flux density variations recorded by the ICE experiment onboard DEMETER satellite. We discuss on one hand the combination 'efficiency' of the electronic density and the VLF electromagnetic measurements, and on the other hand the difficulty to distinguish between global effects and those regional ones related to the earthquake.