



Observations of post-seismic ionospheric disturbances following the great Sumatra earthquake from GPS networks

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The large magnitude earthquake that occurred on 26 December 2004 has generated large amplitude surface waves propagating all around the world. These seismic waves have produced infrasonic perturbations propagating upward in the atmosphere, and generating electronic density perturbations at ionospheric altitudes. We present here an investigation of these post-seismic ionospheric perturbations from data of dense GPS networks all around the world. In a first part, the data processing and the 3D ionospheric imaging method are presented. Then, the results obtained from data of European, Japanese and Californian continuous GPS networks are described. In a last part, the data are investigated to extract parameters related to the seismic surface waves from inverted 3D ionospheric perturbations. In conclusion, the potential of such studies for studying the earth's interior is highlighted.