



Study of the ionospheric perturbations associated with earthquakes using wavelet transform for Demeter satellite data.

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The effect of the seismic activity on the ionosphere were observed and studied for decades from land and satellite data, including Demeter data since 2004. Disturbances in the ionosphere were observed by Demeter over seismic active regions, as the series of earthquakes occurred in Japan on September 5, 2004. The detection of the precursor signal from wavelet transform of the ionospheric electron density recorded by Demeter has involved a number of events of strong earthquakes. Considering the ability of wavelets transform to determine the frequency content while preserving the temporal or spatial location of the signal; the wavelet analysis gives indications on perturbations of the electron density associated with earthquakes over active zones or due to an external phenomenon as solar activity. The methodology developed will, later, determine the variation of the Total Electron Content linked to seismic events in the north Algeria.