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TEC variations over North-western Balkan Peninsula before and during the seismic activity of 24th May 2009

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In this paper the Total Electron Content (TEC) data of 8 Global Positioning System (GPS) stations of the EUREF network, 4 close and 4 remote to EQ epicentre stations, which are being provided by IONOLAB (Turkey), were analysed using wavelet analysis and Discrete Fourier Analysis in order to investigate the TEC variations over North-western Balkan Peninsula before and during the seismic activity of 24th of May, 2009. The main conclusions of this analysis are the following. (a) TEC oscillations in a broad range of frequencies occur randomly over a broad area of several hundred km from the earthquake and (b) high frequency oscillations ($f \geq 0.0003$Hz, periods $T \leq$ 60m) seems to point to the location of the earthquake with a questionable accuracy but the fractal characteristics of the frequencies distribution, points to the locus of the earthquake with a rather higher accuracy. We conclude that the LAIC mechanism through acoustic or gravity wave could explain this phenomenology.