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Lower Ionospheric turbulence variations during the tectonic activity of the last quarter of 2019 in the Hellenic Arc (Greece)

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In this paper we investigate the ionospheric turbulence from TEC observations before and during the tectonic activity of the last quarter of 2019 in the Hellenic Arc, Greece (main shock at $l=23.26^{\circ}E$, $j=35.69^{\circ}N$, $M_w=6.1$). The Total Electron Content (TEC) data of 6 Global Positioning System (GPS) stations of the EUREF network, which are being provided by IONOLAB (Turkey), were analysed using Discrete Fourier Analysis in order to investigate the TEC variations. The results of this investigation indicate that the High-Frequency limit f_o , of the ionospheric turbulence content, increases by approaching the site and the time of the earthquake occurrence, pointing to the earthquake location (epicenter). We conclude that the LAIC mechanism through acoustic or gravity wave could explain this phenomenology.