

Study of pre-seismic ionospheric anomalies in the D region using the DEMETER burst data

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We statistically investigate pre-seismic ionospheric disturbances by using the VLF electric field data of the DEMETER, following Nemeč et al. (Geophys. Res. Lett., 2008; J. Geophys. Res.; 2009) and Pisa et al. (J. Geophys. Res., 2013). Our replicated analysis also showed that the background intensity of around 1.7 kHz electric field decreased within 4 hours before the mainshock with magnitude of more than 4.8, using the complete data set of the DEMETER, i.e., 6.5-year. In order to understand the physical mechanism of the depression of the background intensity, we selected orbit highly related to the decrease of the intensity for the event analysis from the whole data. We analyze the burst mode data of the VLF data in detail.

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