Statistic study on the seismic-ionosphere activities by DEMETER observations

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For studies on the seismic-ionosphere activities, using the Demeter micro-satellite observations of electric wave field and plasma parameters such as ions densities and temperature. Firstly, binning these data of 8100 bins with 4°×2° scales at the latitude-longitude coordinates and calculating mean values of each bin, subtracting the means from the observations, plotting the times of mean square deviation named σ of the residual portions. Statistics of 34 seismic events Ms>5.0 of land-earthquake during Jan. to Feb. 2006 time interval are finished, in the ±32 hours time-scale to earthquake moments at X-axis and within 2000km spatial scale of the epicenter at Y-axis, analyzing such σ distributing graphs, we found that Ey and Ez present synchronous decreasing disturbance at about 440km to epicenter and 3-4hours before eruption time of seism; Ez and ions temperature also have synchronous decreasing activity at about 300km-800km to epicenter and 25hours before eruption. There are no such obvious characters possibly related to seismic activities if without choosing events from all the events which include land- and sea-earthquakes.

Key words seismic-ionosphere, Demeter, Statistics, decreasing characteristic Email: liuxc@cea-igp.ac.cn

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