



## **Day-time variations of foF2 connected to strong earthquake**

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The statistical analysis of the characteristic frequency foF2 of the Earth's ionosphere averaged over mid-day hours - from 11 till 17 h LT - is carried out. Disturbances of foF2 in connection to earthquakes are considered on the background of seasonal, geomagnetic, 11-years and 27-days Solar variations. A special normalized parameter F is introduced, which represents the almost seasonal-independent part of foF2. Days with high Solar (Wolf number > 100) and geomagnetic ( $\Sigma K_p > 30$ ) disturbances are excluded from the analysis. Events with magnitude  $M > 5$ , distance from the sounding station  $R < 500$  km and depth  $h < 70$  km are taken into account. The superimposed epoches' method is used to determine the temporal dependence of F. It is found that F increases about 3-6 days before the earthquakes and then decreases one day - two days before the shock. The decreased values of F continue to exist two-three days after events with  $M > 5.5$ . The obtained phenomenon depends on the magnitude of the earthquake. For events with  $M > 5.5$ , the reliability of the effect is larger than 95 %. For data of more than 80 earthquakes in the vicinity of Petropavlovsk-Kamchatsky and more than 200 earthquakes in the vicinity of Tokyo analogous results are obtained.