SCHUMANN RESONANCE FREQUENCIES INCREASE DURING SOLAR X-RAY BURSTS

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Variations of Schumann resonance frequencies on the base of observations in Lovozero (Kola peninsula) and Karimshino (Kamchatka) have been studied for 7 days in March-April, 2001 when intensive X-ray bursts on the Sun occurred. The simultaneous increase of the first frequency of about 0.2 Hz was observed in the H component at all events at the both stations. In the D components this effect is seen distinctly only in a half of events. The frequency increase is revealed also for the second mode of 14 Hz in Karimshino data at half events in noisy H and D components. After correcting data by the earth conductivity effect we obtained the frequency increase in all events considered. The diurnal variations of the first mode frequency are strongly different both in two magnetic components and at two stations. The frequency increase and the diurnal variation features can be explained by the frequency splitting due to the horizontal inhomogeneity of the ionosphere.