

VARIABILITY OF SPORADIC E LAYER IN MIDLATITUDES

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Present contribution deals with sporadic E layer variability based on measurement in the Observatory Pruhonice (Czech Republic, 49.9N, 14.5E) during campaigns of high sampling rate measurements (5 min and 15 minut repetition time). Special campaigns were performed during summer time when the sporadic E layer occurrence is highest (data were collected since 2004 till 2008). Variability in height and critical frequency of sporadic E layer over a wide period range of hours to several days, covering tidal and planetary oscillation domain, is analyzed using wavelet transform. Within time series of height and critical frequency of the sporadic E layer there are well developed tidal and planetary modes of oscillation. We confirm our previous finding (based on campaign 2004) that a central period of the diurnal tide is not exactly 24 hours but vary in the range 22 and 26 hours.

Wavelet based analysis of the wave activity within Es layer is completed by the measurements and analysis of plasma motion in the height range 90 km - 150 km. Special measurement of plasma drift at two frequency windows. Together with a standard E measurement (2-2.6 MHz) we recorded plasma motion each 15 minutes also in a higher frequency window (3.2 - 4.7 MHz). Our results show significantly different behavior of plasma motion in the E and Es layers.

Es layer, wave activity, plasma motion

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