



HF frequency Doppler sounding system for ionospheric research in the Czech Republic

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A radio frequency Doppler sounding observation of the ionosphere has been in operation at the Institute of Atmospheric Physics, Prague since January 2004. A relatively low transmitted power (1 W) makes it possible to operate the system in the closeness to new digital ionosonde. Thus, the continuous Doppler spectrograms can be analyzed with the help of 15 minutes samples of ionograms. We will present a short technical description, and some interesting examples of Doppler spectrograms; we show that a broadening of received spectrum can be in some cases associated with the occurrence of sporadic E layer. Next, we present the Doppler records made in periods of high geomagnetic activity. We show also other dynamic behavior of the ionosphere, like nice evidence of horizontally moving structures producing S-shape trace in the Doppler spectrograms on different time scales. We demonstrate that the system is capable to measure the waves having the period as low as several tens of seconds.