Precise measurements of the virtual height in the E-region. A campaign for the COST296/IHY activities

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A technique of enhanced-resolution group height measurements of ionospherically reflected radiowaves has been implemented in the Digisonde sounders. The method is based on the analysis of phase differences between signals with closely spaced frequencies, which allows deriving the virtual heights of ionospheric layers with an accuracy of better than one kilometer. A campaign of precise measurements of virtual heights of the E layer, h'E, was carried out in the framework of the European COST296 action in support of the 3rd CAWSES campaign. Six European digisondes participated in the joint observations that lasted from June to August 2007. The paper presents a brief description of the measurement technique, and gives first results of the h'E variations observed during the campaign. Special attention is paid to the day-to-day variation of the regular E layer and to the night-time variation of h'Es derived from sporadic E layer echoes.