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MOF/MUF Behavior over One European Path

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Creation of the IRI model is one of the most important achievements of ionospheric investigations. Development of this model is connected with an inclusion of the storm-factor ST (2002) and the ionospheric variability VI(2005). The possibility to adapt this model to current ionospheric conditions makes this model very attractive for HF channel needs. The estimate of the adaptation efficiency is very important for the valuation of an accuracy limit of maximum usable frequency MUF and D (length of path) determination. This estimate is made by means of the standard deviation of the model values from the actual ones and an additional coefficient of improvement CI=(σ(IRI)-σ(adapt))/σ(IRI). In this paper the efficiency of the IRI model is estimated on the example of the MOF set data on Inskip-Rome path for December 2003. As for MUF, statistics of quiet days showed the accuracy $\sim$7.5-13% for the original IRI model and 5-10% for the VS adapted one (CI$\sim$12-25%). For weakly disturbed conditions (Dst$>$-66nT during a month) ST factor didn't provide essential adaptation but vertical sounding (VS) data allowed to lower the MUF error from 11-18% to 6-14% (CI$\sim$25-57%). Correction by TEC data showed CI$\sim$33% regardless of conditions.. As for D, the mean relative error of the path length determination was 2-10% for both of correction methods (VS and TEC) in a day and night time and up to 15% for sunset and sunrise hours. MOF variability is compared with ionospheric variability VI.