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OBAVIJEST

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sljedeće izlaganje:

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Validation of WRF single-column model surface layer simulations with the PABLS'15 campaign

ABSTRACT: One of the most challenging aspects of numerical weather modelling is the treatment of boundary layer, especially in stable or near neutral stratification conditions. In the absence of intensive turbulent motions, e.g. at night the boundary layer processes are more determined by the surface fluxes than during the day. The coupling between surface fluxes and the boundary layer schemes are treated by schemes of surface layer. The representation of this coupling affects temperature predictions in winter and the daily minimum temperatures throughout the year over continental, landlocked areas. Since our knowledge on the surface layer is limited, and because the numerical weather prediction models cannot afford large-eddy-scale computations, simplification is required in the estimation of exchange processes. The most frequent methods include some form of similarity theory – on the basis of Monin-Obukhov similarity theory. In 2015 in the scope of the Pannonian Atmospheric Boundary Layer Experiment, a series of multicopter, tethered balloon and flux measurements were taken place in southern Hungary for a period of 5 days, over a flat, homogeneous area in the middle of the Pannonian Plain. Depending on the instrument, each flight reached 80-200 m height, with a data resolution of 10-30 cm, temperature and relative humidity were available in all cases. The WRF single column model, can be used to test different parameterization schemes, without the effect of 3D motions. Since the surface layer fluxes depend on the surface information, the soil and vegetation parameters have been determined according to the measurement site, soil initial conditions were determined from measurements and simulated fluxes were tested against the continuous flux measurements. The model setup used 61 atmospheric vertical layers, where 22 layers are found in the lowest 200 meters. From the available parameterizations, 26 combinations were chosen and analysed. Our initial goal is to compare the reliability of surface layer and planetary boundary layer schemes against the measurements of the campaign, and analyse the possible problems of the surface layer schemes.

Pozivaju se studenti, apsolventi i svi zainteresirani da prisustvuju predavanju, koje će se održati u **predavaoni P2** Geofizičkog odsjeka PMF-a, Horvatovac 95, Zagreb.