



Numerical simulations of fog cases at Sofia airport for 2011-2014

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Fog is a weather phenomena forecast of which is essential for aviation. Besides the flight safety it often cause of delays and flight re-schedules at the airports and the annual losses are estimated at hundreds of millions of euros. The purpose of this work is to be propose an operational tool for fog forecasting at the airports. The approach is based on a numerical weather prediction model WRF. After selection of appropriate model parameterization numerical simulations of 18 situations with fog were performed. An analysis of the model skills for fog conditions at Sofia Airport is presented. The obtained results are separated in four groups. The first three groups refer to cases in which the model does not simulate the fog conditions. It was found that the reason for this is either the horizontal resolution, the used parameterization, problems in the dynamics of the model or the initial conditions. Ongoing is work on assimilation of the ground based observations in WRF model.