



## **Estimation of wind speed at 2 m from routine weather data**

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The possibility of estimating wind speed at 2 m above ground is examined using a theoretical approach and routine weather data. The basis for estimations of wind speed at 2 m above ground is the Monin-Obukhov similarity theory for the atmospheric surface layer. In the absence of turbulence measurements we had to derive atmospheric boundary layer parameters from other available data. For this purpose, hourly data (wind speed at 10 m, air temperature at 2 m and 10 m above ground) at the Zagreb-Maksimir Observatory (Croatia) for the 2005 have been used. The results obtained have been tested using several approaches: *bias*, *mean absolute error* and *root mean square error* in dependence on the atmospheric stability, wind speed and direction. Some experiments on optimum roughness length and displacement height have also been performed. The estimated wind speed at 2 m could be used for evaporation calculation, in agriculture, surface transportation, local weather forecasting, etc.