



## **Analysis of the hungarian transmission standards in mixing height determination**

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Hungarian Transmission Standards were updated with the idea of standardising and improving methods for the calculation of meteorological parameters using as inputs in air quality dispersion models. New methods for determination of mixing height are recommended by COST 710 project results. In case of stable and mechanically-dominated unstable atmospheric boundary layer the formula for mixing height determination requires as input wind speed, Monin-Obukhov length and Coriolis parameter. In the convective case the solution of a simple prognostic model based on the determination of initial temperature profile and surface heat flux was used. Statistical comparisons among (i) new and (ii) former Hungarian Standards, (iii) AERMOD, (iv) some methods suggested by COST 710 as well as (v) radiosonde measurements were done. Based on standard meteorological measurements hourly values of mixing height were calculated using different approaches for one year dataset. Model results are in good agreement with radiosonde measurements; the best fit was obtained for the periods of rising convective layer. Growing rate of the mixing height is sensitive on the estimation of the potential temperature jump; thus one of the fundamental input parameters is the potential temperature gradient above the convective layer. Effects of critical maximal values of potential temperature jump were also investigated.