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Seminarium Zakładu Energetyki Jądrowej i Analiz Środowiska (UZ3) Departament Badań Układów Złożonych (DUZ)

Wtorek: **22.06.2021**
11:30

Ewa Kowalik-Pilarska

Estimation of Weibull distribution parameters using mesoscale modelling

Abstract:

Proper wind characteristic at the certain area is essential not only for weather forecasts, but also for many environment-related types of research, like air contamination analyses, including radiological emissions. Wind speed distribution and wind direction assessment are a part of the base of every sophisticated air contamination model. Wind assessments at different heights are useful for analyses of the wind energy sector.

Two-parameter Weibull distribution is considered the most appropriate for wind speed frequency distribution characteristics. Weibull distribution is a continuous probability distribution, which is described by shape parameter – k and scale parameter – α . Therefore the assessment of mentioned parameters is essential for wind speed analyses.

Through the presentation, Weibull distribution would be described more in the context of wind speed assessment. The seminar will cover example analysis of wind speeds and Weibull distribution parameters estimation for six points in Poland.

The seminar will also touch on topics of wind speed distribution as a function of height above ground, differences in four methods used for wind speed parameters assessing, statistical analyses of the results of calculations, analyses of fitting the results of calculations to Weibull distribution, and comparison of data generated by the meteorological model to measured data from SYNOP stations.

Serdecznie zapraszamy
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