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Thesis Title	<i>Wind characteristics assessment for the area of Greece</i>
Supervisor	D. Deligiorgi, Associate Professor
Summary	The current thesis presents an assessment of wind characteristics in nineteen stations in total at the area of Greece. The employed database consists of hourly measurements of wind speed and direction along with air temperature for a 17- year period (1998-2014). The analysis is performed for the overall period and on a seasonal basis. Furthermore the Weibull, Rayleigh, Lognormal and Gamma distributions are examined for their ability to model the experimental wind speed frequency distributions at each station. The goodness-of-fit of the aforementioned theoretical distributions is evaluated by using the coefficient of determination (R ²) and the χ^2 hypothesis test. The results indicate that in most cases the Weibull distribution fits the experimental data adequately well. Additionally the wind power density is calculated at each station and for the entire period and the results are discussed after classifying the experimental sites into seven homogeneous climatic regions. The results highlight the significance of topography along with the importance of the seasonality of the wind speed.
Key words	wind speed, wind energy, wind power, theoretical probability distributions
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