Modelling regional wind states from anemometric data

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Abstract

The wind is a complex system hard to predict and understand his dynamic. However, the possibility to predict wind dynamics in regions could have an impact on several issues such as wind energy, pollution transport and meteorologic predictions. In this study is developed a methodology to describe the wind dynamic in the base of real data and it is used in four anemometric stations placed in Zacatecas. The methodology tries to extract the physics of the real data in the concept of *wind states*[1] and model the data as a network, defining *regional wind states*. These regional wind states describe the dynamic of the regional wind in an empirical approach and could be used to wind prediction for several applications.

References

[1] P. A. Sánchez-Pérez, M. Robles, and O. A. Jaramillo. Real time Markov chains: Wind states in anemometric data. *Journal of Renewable and Sustainable Energy*, 8(2), 2016.