## Multifractal modeling of wind speed in the municipality of Patos, Paraíba

Kerolly Kedma Felix do Nascimento  $^1$ , Fábio Sandro dos Santos  $^2$ , Diego Alves Gomes  $^3$ , Jader da Silva Jale  $^4$ , Rayane Santos Leite  $^5$ , Tatijana Stosic  $^6$  Tiago Alessandro Espínola Ferreira  $^7$ 

**Abstract:** We investigated the behavior of the historical wind speed series of the city of Patos-PB and observed that the locality may be propitious to the wind farm installation, since the results obtained with the Multifractal Detrended Fluctuation Analysis method indicate the presence of persistent properties in the database.

Keywords: Wind power; MFDFA; Persistence; Potential.

 $<sup>^1{\</sup>rm Universidade}$ Federal Rural de Pernambuco - UFRPE. e-mail: kerollyfn@gmail.com

 $<sup>^2</sup>$  Universidade Federal Rural de Pernambuco - UFRPE. e-mail: fabio.sandropb@gmail.com

<sup>&</sup>lt;sup>3</sup>Universidade Federal Rural de Pernambuco - UFRPE. e-mail: diegoalvesestatistica@gmail.com

<sup>&</sup>lt;sup>4</sup>Universidade Federal Rural de Pernambuco - UFRPE. e-mail: jsj\_ce@yahoo.com.br

 $<sup>^5</sup>$  Universidade Federal Rural de Pernambuco - UFRPE. e-mail: ray ferreira leite@gmail.com

<sup>&</sup>lt;sup>6</sup>Universidade Federal Rural de Pernambuco-UFRPE. e-mail: tastosic@gmail.com

Universidade Federal Rural de Pernambuco-UFRPE. e-mail: tastosac@gmail.com Universidade Federal Rural de Pernambuco-UFRPE. e-mail: taef.first@gmail.com