WIND SPEED FORECASTING IN MALAYSIA BY USING ARTIFICIAL NEURAL NETWORK

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ABSTRACT

Wind energy is one of an energy source to produce power that use wind or wind speed as an energy source and one of renewable energy types that convert the kinetic energy into electrical energy by using wind turbine. The suitability for sitting or build the wind farm can be predicted by forecast the wind power based on the wind speed which is the main factor. Malaysia was located at equator where it experiences two weather seasons which are Southwest monsoon on May or June to September where the wind speed are often below 7m/s at south cost of Peninsular Malaysia and Northeast monsoon where the wind speed may reach up to 15m/s on November until March particularly in the east cost of Peninsular Malaysia. The issues are whether Malaysia has a potential or not for sitting or build the wind farm with more commercially by using Artificial Neural Network (ANN) as method for wind power forecasting. The areas or locations that had experience Northeast monsoon are found most potential for applied wind energy technology which are Kelantan and especially Terengganu where PulauPerhentian, Terengganu had applied wind turbine into their power plant where its suitable because of high wind speed characteristic, sea breeze and land breeze factors. The location of Kuala Terengganu, Terengganu had selected for wind speed forecasting according to all potential. The wind power also can be predicted based on rough calculation.

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