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SOLAR IRRADIATION PREDICTION USING NEURAL NETWORK

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ABSTRACT

In recent years, introduction of a renewable energy source such as solar energy is expected due to the expected depletion of other conventional energy sources. Solar energy is one of the most promising renewable energy sources. In order to integrate this type of source into an existing power distribution system, system planners need an accurate model that predicts the availability of the generating capacity. In order to predict this to a successful extent, an artificial neural network is applied. This paper shows the results of our earlier proposed neural network model used for prediction of solar irradiation, as well as compares outputs from various neural network models based on supervised learning rules and Error Back Propagation Training Algorithm. The irradiation and other training data of one year (December 2012 to November 2013) have been obtained from Tata Power Company's Mulshi Solar Power Plant.

KEYWORDS: Artificial Intelligence, Solar Energy, Solar Irradiance, Neural Network, Prediction, EBPTA, Feed Forward