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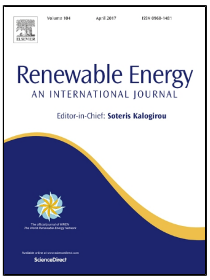

Prediction and comparison of solar radiation using improved empirical models and adaptive neuro-fuzzy inference systems

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Highlights of the manuscript:

1. Routine meteorological variables are employed as inputs for model development.
2. The ANFIS, E-IBCM and IYHM model are proposed and evaluated to predict global solar irradiance.
3. Improved empirical models are better than the original models in solar radiation estimation.
4. ANFIS model provides the best global solar irradiance predicting results in China among three models.