Prediction of Full-Scale Propulsion Power using Artificial Neural Networks

Full scale measurements of the propulsion power, ship speed, wind speed and direction, sea and air temperature from four different loading conditions, together with hind cast data of wind and sea properties; and noon report data has been used to train an Artificial Neural Network for prediction of propulsion power. The model was optimized using a double cross validation procedure. The network was able to predict the propulsion power with accuracy between 0.8-1.7% using onboard measurement system data and 7% from manually acquired noon reports.

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