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Speed Optimization Model for Reducing Fuel Consumption Based on Shipping Log Data

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Abstract : It is known that total operating cost of a vessel is dominated by the cost of fuel consumption. How to reduce the fuel cost of ship so that the operational costs of fuel can be minimized is the question that arises. As the basis of these kinds of problem, sailing speed determination is an important factor to be considered by a shipping company. Optimal speed determination will give a significant influence on the route and berth schedule of ships, which also affect vessel operating costs. The purpose of this paper is to clarify some important issues about ship speed optimization. Sailing speed, displacement, sailing time, and specific fuel consumption were obtained from shipping log data to be further analyzed for modeling the speed optimization. The presented speed optimization model is expected to affect the fuel consumption and to reduce the cost of fuel consumption.

Keywords : maritime transportation, reducing fuel, shipping log data, speed optimization
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