

Mestrado Profissional (MP)

A HYBRID VNS FOR THE MULTI-PRODUCT MARITIME INVENTORY ROUTING PROBLEM

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ABSTRACT

In a growth scenario of the world economy, it is essential to increase the integration between the different actors in the companies' supply chain, reducing operational costs, and improving efficiency. Ship routing is a crucial part of this integration regarding global maritime commerce. In this work, we present a hybrid VNS metaheuristic to tackle a real Maritime Inventory Routing Problem (MIRP) in a company that explores oil and gas in the Brazilian offshore basin. In the methodology proposed, a linear mathematical model is embedded in the local search procedure to minimize inventory costs. The approach, validated within realistic data, provides low and not regular inventory violations. When compared with a previously developed method, it presents an improved performance, with reduced costs and computational time.

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