

## CONTINUOUS NONLINEAR PROGRAMMING SOLUTIONS FOR SCHEDULING PROBLEMS IN PORTS

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### ABSTRACT

A novel nonlinear model for scheduling in the Oil and Gas industry is presented, where discrete variables are replaced by complementarity constraints on non-discrete variables, achieving a continuous model. We illustrate the approach with computational examples from the literature, which are solved to local optimality with NLP solvers in reasonable computational time. The problem is modeled as a dynamic system operating under certain constraints. Transfer operations are carried out by flows from source to destination equipments, changing the contents (volume and properties) of the destination.

**Keywords :** Continuous Optimization, Nonconvex Optimization, Scheduling, NLP methods.