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Dedicated to Professor LAZĂR DRAGOȘ on his 75th birthday

Mathematical Models and Optimizations of Naval Sail Systems

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Abstract - The paper presents mathematical models and methods for the optimization of wind propelled sail profiles. In order to solve limit issues, direct or inverse methods have been used. Both cases of wind circulation around the sail profile and circulation-free cases have been approached. For sail optimization purposes, flaps sails are considered assimilated to a point-vortex.

Key words and phrases : Direct and inverse problem; Jensen's inequality; current tubes methods; optimization problem

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