

Assignment 1 - Abstract Comunication Skills I

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A numerical model to study the towing maneuver for floating and submerged bodies has been developed. The proposed model is based in the dynamic study of a catenary line moving between two bodies, one body with imposed motion, and the other free to move. The model improves previous models used to study the behavior of mooring systems based on a finite element method by reducing the noise of the numerical results considering the Rayleigh springs model for the tension of the line. The code was successfully validated using experimental results for experimental data from different authors and experiments found in the literature. Sensitivity analysis on the internal damping coefficient and the number of elements has been included in the present work, showing the importance of the internal damping coefficient. As an example of the application of the developed tool, simulations of towing systems on a real scale were analyzed for different setups. The variation of the loads at the towed body and the position of the body were analyzed for the studied configurations. The reasonable results allow us to say that the proposed model is a useful tool with several applications to towing system design, study or optimization.