

Title: PIV (Particle Image Velocimetry) Measurements in Thruster-interaction

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Abstract

During DP operation the thrusters of the vessel counteract the wind, wave and current forces, so that the vessel can maintain its required position and heading. However, the generated forces can be significantly smaller than what would be expected based on the thrusters' bollard pull characteristics. This is a result of thruster-interaction (or thrust degradation) effects, which occur as a result of interactions with the hull, current and the wake of neighboring thrusters. The understanding and quantification of these interaction effects is essential for an accurate evaluation of the station-keeping capabilities of DP vessels.

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