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Kinematics of very large ocean waves in deep water (joint work with A Jensen and K Trulsen)

Experiments and calculations of very large ocean waves in deep water are presented. We are interested in the associated kinematics in very steep events, particularly the wave induced velocities (and the accelerations) in the top part of the waves. Experimental measurements are conducted using high-resolution PIV, and the results are presented using appropriate scaling. Experiments compare well with theoretical simulations. The result is a unified method to predict the kinematics of steep wave events. Results from focussing and irregular wave simulations are illustrated. The kinematics of the Draupner wave is estimated.

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