



Drift of ice: an experimental model in a wave-ice flume

Azam Dolatshah (1), Filippo Nelli (1), Alberto Alberello (2), Amedeo Cappa (3), Luke Bennetts (4), Miguel Onorato (3), Jason Monty (2), and Alessandro Toffoli (2)

(1) Swinburne University of Technology, Melbourne, Australia (azam.dolatshah@gmail.com), (2) The University of Melbourne, Melbourne, Australia, (3) Università di Torino, Torino, Italy, (4) University of Adelaide, Adelaide, Australia

Predicting ice drift in ice-covered seas is important for climate change as well as offshore navigation and structure safety. Role of waves to drift the ice is still unclear. An experimental study is conducted in a wave-ice flume, which is mounted in a refrigerator chamber, at the University of Melbourne. Ice drift under monochromatic and random waves in different concentrations of clusters of ice cubes is investigated. Cameras record videos to be analysed by image processing technique. Ice cubes' diameters are much smaller than generated wavelengths. Drift of a single ice cube is also examined. Results are then interpreted to understand behavior and drift of ice in different conditions.