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Filed observations of spray production function during Tropical Cyclones Olwyn and Veronica

Alexander Babanin¹, Hongyu Ma^{1,2}, Xingkun Xu¹, and Fangli Qiao²

¹The University of Melbourne, Melbourne School of Engineering, Dept of Infrastructure Engineering, Melbourne, Australia (a.babanin@unimelb.edu.au)

²First Institute of Oceanography, China

Spray produced in Tropical Cyclones affects the dynamic and heat fluxes between the atmosphere and ocean, and thus can influence the Cyclone intensity in a number of ways. Measurements of the Sea Spray Generation Function (SSGF) in situ, however, are extremely challenging and correspondingly rare, and uncertainties in quantifying SSGF reach 1000 times.

In the presentation, measurements of the total volume of spray by means of a laser array in Tropical Cyclones Olwyn (2015) and Veronica (2019) in the Indian Ocean will be reported. They are used to develop a parameterisation of SSGF at wind speeds ranging from light to extreme. It is argued that the spray is produced by wind-over-the-waves, and therefore wave properties are also accounted for in the parameterisation.