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Freak wave observations in Taiwanese and Russian waters

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Instrumental records of freak waves in Taiwanese and Russian waters are collected and studied. Taiwanese data consists of the surface elevation measurements retrieved from Longdong and Taitung Data Buoys. Instrumental observations in the Okhotsk Sea, Baltic Sea, and also a few registrations from the Black Sea constitute the rogue wave data obtained in Russian waters. The obtained rogue wave records belong to different sea conditions, in particular, to different water depths. Properties of measured freak events in shallow-water and deep-sea conditions are compared and discussed. Good data resolution allows us to analyze characteristics of the peak waves. In general, the shape of the detected freak waves is vertically symmetrical, but exhibits horizontal asymmetry. Such asymmetry can be related to the nonlinear wave deformation. Perspectives of numerical modeling of the experimental data b means of the nonlinear evolution equations are discussed.