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From NLS breathers to sea-keeping tests

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Nowadays there is a general consensus on the existence of rogue waves in the ocean. During the last years many efforts in the community of physicists and oceanographers have been devoted to the understanding of their origin. At the same time, engineers and naval architectures have been interested on the consequences of the impact of rogue wave on offshore structures and ships. Recently, in the Technical University of Berlin (TUB) breather solutions of the Nonlinear Schrödinger (NLS) equation have been successfully produced and used for the first time in sea-keeping tests, opening up new perspectives in the methodology of examining offshore structures and ships against rogue waves.
Results on a LNG carrier and a chemical tanker will be presented.