



Influence of crest and group length on the occurrence of freak waves

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A large number of simulations have been performed to reveal how the occurrence of freak waves on deep water depends on the group and crest lengths for fixed steepness. It is found that there is a sharp qualitative transition between short- and longcrested sea, for a crest length of approximately ten wave lengths. For short crest lengths the statistics of freak waves deviates little from Gaussian and their occurrence is independent of group length (or BFI). For long crest lengths the statistics of freak waves is strongly non-Gaussian and the group length (or BFI) is a good indicator for increased freak wave activity.