

Report on the paper "Catalogue of extreme wave events in Ireland: revised and updated for 14680 BP-2017" by L. O'Brien *et al.*

About the classification of Killard rogue wave:

(i) Fenton (JFM, 94(1), 1979) demonstrated exactly that the boundary of applicability between short waves (deep) and long waves (shallow) is at $\lambda/d \approx 8$ which corresponds to $kd \approx \pi/4$

(ii) From an empirical point of view there are several relations to define this boundary. In the book of R.G. Dean & R.A. Dalrymple it $kd \approx \pi/10$ and in the book of M.W. Dingemans it is $kd \approx 2\pi/10$. I found in a paper by Fenton this relation $H\lambda^2/d^3 > 40 \Rightarrow$ long wave.

It is clear that the empirical definitions classify the Killard wave as a short wave and on the opposite the more rigorous definition classifies it as a long wave. Consequently, I suggest to the authors to discuss this point in their revised version.