

SPEAKER:

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TITLE:

A proof of the Zakharov-Dyachenko conjecture for periodic gravity waver
waves

ABSTRACT:

I will discuss a recent joint work with M. Berti and R. Feola in which we give a rigorous proof of a conjecture of Zakharov and Dyachenko on the integrability up to order 4 of the gravity water waves Hamiltonian in 1 dimension. As a consequence we also obtain a long-time existence result for small spatially periodic solutions, proving that these survive at least up to times of $O(\text{sizeofdata})^{-3}$.