

Fabio PUSATERI

Global regularity for water waves.

We will begin by introducing the water waves equations which are a system of evolution equations modeling the motion of waves (like those in the surface of the ocean), and discuss some of the works done in recent years on the question of long-time regularity.

We will then present a recent result, joint with Deng, Ionescu and Pausader, about global existence of smooth solutions for the 3d gravity-capillary water waves system in infinite depth.

The main difficulties in this problem are the slow decay of linear solutions and the presence of a large set of resonant interactions.