ID de Contribution: **14** Type: **Non spécifié**

Large-amplitude steady gravity water waves with constant vorticity

lundi 21 mai 2018 16:30 (1 heure)

We consider the problem of two-dimensional travelling water waves propagating under the influence of gravity in a flow of constant vorticity over a flat bed. By using a conformal mapping from a strip onto the fluid domain, the governing equations are recasted as a one-dimensional pseudodifferential equation that generalizes Babenko's equation for irrotational waves of infinite depth. We explain how an application of the theory of global bifurcation in the real-analytic setting leads to the existence of families of waves of large amplitude that may have critical layers and/or overhanging profiles. Some new a priori bounds and geometric properties of the solutions on the global bifurcating branches will also be presented. This is joint work with Adrian Constantin (University of Vienna, Austria) and Walter Strauss (Brown University, USA).

Auteur principal: VĂRVĂRUCA, Eugen (U. Alexandru Ioan Cuza, Iași, Roumanie)

Co-auteurs: CONSTANTIN, Adrian (U. de Vienne, Autriche); STRAUSS, Walter (Brown U., Providence, Etat-s-Unis)

Orateur: VĂRVĂRUCA, Eugen (U. Alexandru Ioan Cuza, Iași, Roumanie)