XVIII INTERNATIONAL CONFERENCE ON HYPERBOLIC PROBLEMS
THEORY, NUMERICS, APPLICATIONS
Málaga, June 20-24, 2022

Waves with viscosity

Rafael Granero-Belinchón [*]

In this poster we revise the derivation of two asymptotic models of gravity-capillary surface waves for viscous fluids. In particular we consider the case of both newtonian and non-newtonian fluids with viscosity tensors

$$\mathcal{T}_j^i = -p\delta_j^i + \nu_e \left(\nabla_j u_i + \nabla_i u_j\right),$$

and

$$\mathcal{T}_j^i = -p\delta_j^i + \nu_o \left(\nabla_i u_j^\perp + \nabla_i^\perp u_j\right),$$

with $a^\perp = (a_2, -a_1)$. Based on joint works with Alejandro Ortega (UC3M) and Stefano Scrobogna (U. Trieste).

Acknowledgements

R.G-B was supported by the project "Mathematical Analysis of Fluids and Applications" Grant PID2019-109348GA-I00 funded by MCIN/AEI/ 10.13039/501100011033 and acronym "MAFyA". This publication is part of the project PID2019-109348GA-I00 funded by MCIN/ AEI /10.13039/501100011033. This publication is also supported by a 2021 Leonardo Grant for Researchers and Cultural Creators, BBVA Foundation. The BBVA Foundation accepts no responsibility for the opinions, statements, and contents included in the project and/or the results thereof, which are entirely the responsibility of the authors.

[*]Departamento de Matemáticas, Estadística y Computación, Universidad de Cantabria. Email: graneror@unican.es