

Modelling, numerics and design of a wave maker

Internship Project in BCAM: Basque Center for Applied Mathematics

Mathematical modelling, numerical simulations and optimal design are three disciplines that often need to be combined together to address the most challenging problems in engineering.

In this project, in collaboration with a basque company developing new modern sport infrastructures, we are interested in analyzing water-wave models, describing the propagation of waves artificially generated by a moving bottom in large pools, with the aim of providing new surfing opportunities.

Accurate numerical simulations will be developed and optimal design methods will be applied in order to study how the shape of the wave maker can be optimized to get the highest possible waves.

The obtained results will be confronted with the available experimental data.

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