**MHD-induced free surface waves in a rectangular vessel**

The aim of the project is comparison of the experimentally measured energy spectrum of surface waves induced by electrical currents in a rectangular basin filled with liquid Gallium with a simplistic model describing non-linear interaction of wave modes.

Videos recording position of the metal surface will be processed to obtain the timeseries of the surface elevation.
The timeseries will be Fourier-decomposed to extract amplitude and phase parameters of individual harmonics.

A simplistic shallow water model with forcing terms will be constructed for waves in a rectangular domain.
Then, forcing terms will be empirically chosen to make the model output resembling experimentally measured spectra.

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