

# HARMONIC AND SPECTRAL ANALYSIS

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## Constructing potential solutions to the Euler equations, with applications to some control problems in fluid-solid interactions

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A broad class of solutions to the incompressible Euler equations in the absence of vorticity can be given by solving an appropriate Neumann-problem for the Laplacian. We show how to do this in the particular setting of fluid-solid interaction problems, obtaining an appropriate control function which acts on the outer part of the fluid domain and steers the solid in a desired manner.