

Rayleigh-Bénard convection with Navier-slip boundary conditions**Authors:**

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Abstract: Rayleigh-Bénard convection describes the dynamics of a buoyancy-driven fluid trapped between a hot plate on the bottom and a cold plate on top. While usually the Navier-Stokes equations are equipped with either no-slip or free-slip boundary conditions, in this talk we focus on the Navier-slip conditions that interpolate between the two and, depending on the underlying system at hand, better reflect the physical behavior of the fluid. In particular, we investigate scaling laws for the vertical heat transfer with respect to the buoyancy forcing and other system parameters and analyze the role of boundary conditions in these bounds.

References: