

Low Velocity Flows



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Asymptotic limits of the Shallow Water equations

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In this talk, I will explain the asymptotic limits that can be obtained from the Shallow Water equations. In the Shallow Water equations, the values of two non-dimensional numbers (the Strouhal and the Froude numbers) can be chosen in order to catch various physical phenomena. We will see that, depending on the links between the Strouhal number, the Froude number, and the scales of the topography, we get other well-known equations such as the "Lake equation" for example.

This work has been done in collaboration with Didier Bresch (LAMA, Université de Savoie, France) and Rupert Klein (Free University of Berlin, Germany).

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