

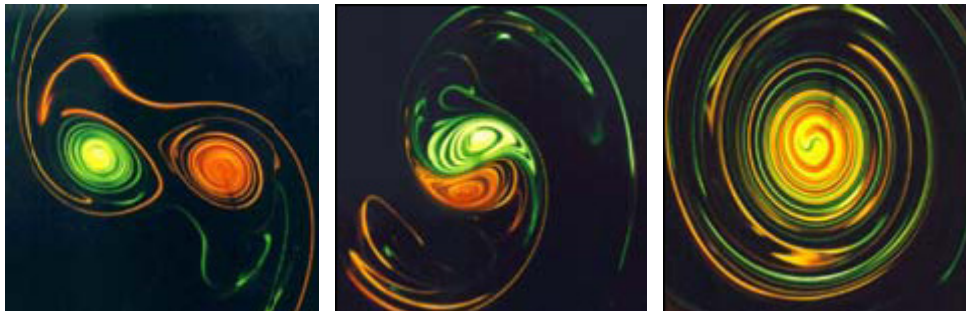
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Vortex pairs

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This talk gives an overview of the dynamics and instabilities in systems of two parallel vortices of equal circulation. Such vortex pairs, which can either be co- or counter-rotating, represent the simplest configurations for the analysis of elementary vortex interactions, and are also relevant for certain applications such as aircraft trailing wakes. Starting with vortex filament pairs, increasingly complex situations will be considered, including finite core size, axial core flow, and the presence of a wall. Phenomena such as vortex merging, long-wavelength (Crow) instability and short-wave (elliptic) core instability will be addressed, mostly from an experimental perspective, complemented by theoretical and numerical results.



Dye visualization of the merging of co-rotating vortices in a water tank.