
Collisions of vortex filaments

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Abstract

We study the issue of collisions for a model introduced by Klein, Majda and Damodaran for the evolution of vortex filaments. We focus on the cases of counter-rotating pairs of filaments on the one hand, and of an arbitrary number of vortex filaments with polygonal symmetry on the other hand. We prove the existence of a solution such that the filaments collide at some point in finite time in a self-similar fashion. This is joint work with Valeria Banica and Erwan Faou.

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