1139-58-115 **Anton Izosimov*** (`izosimov@math.arizona.edu`), Department of Mathematics, The University of Arizona, Tucson, AZ 85721, and **Boris Khesin** (`khesin@math.toronto.edu`), Department of Mathematics, University of Toronto, Toronto, ON M5S 2E4, Canada. *Vortex sheets and diffeomorphism groupoids.*

In 1966, V.Arnold suggested group-theoretic and Hamiltonian frameworks for an ideal hydrodynamics. According to his approach, the motion of an incompressible fluid on a Riemannian manifold is described as the geodesic flow of a right-invariant metric on the group of volume-preserving diffeomorphisms. In this talk we will review Arnold's picture and show how it can be extended to incorporate certain discontinuous fluid motions, known as vortex sheets. This is done by replacing groups and algebras in Arnold's approach by certain groupoids and algebroids. (Received February 04, 2018)

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