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Gerard Misiolek* (gmi101e@nd.edu), Mathematics, University of Notre Dame, Notre Dame, IN 46556. *Geometric approach to Euler equations of hydrodynamics.*

In 1966 Arnold explained how solutions to the Euler eqns of hydrodynamics can be viewed as geodesics on a diffeomorphism group. I will describe a recent result with Ebin and Preston on the structure of singularities of the corresponding exponential map. (Received August 15, 2005)