

A variational time discretization for Euler equations

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I will present a variational time discretization for the multi-dimensional gas dynamics equations, in the spirit of minimizing movements for curves of maximal slope. Each timestep requires the minimization of a functional measuring the acceleration of fluid elements, over the cone of monotone transport maps. We prove convergence to measure-valued solutions for the pressureless gas dynamics and the compressible Euler equations. This is a joint work with Marc Sedjro and Michael Westdickenberg.