# The L2 theory for compressible Euler equations and the inviscid limit from Navier-Stokes equations.

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Compressible Euler equations are a typical system of hyperbolic conservation laws, whose solution forms shock waves in general. It is well known that global BV solutions of system of hyperbolic conservation laws exist, when one considers small BV initial data. In this talk, I will first discuss the joint work with Krupa and Vasseur for systems with two unknowns and non-isentropic Euler equations with three unknowns, where we established an L2 stability theory using the method of relative entropy on modified front tracking scheme. Then I will introduce the recent progress on the vanishing viscosity limit from Navier-Stokes equations to the unique BV solution of compressible Euler equations. This is a famous open problem after Bianchini-Bressan's seminal vanishing artificial viscosity limit result for BV solutions of hyperbolic conservation laws. This is a joint work with Kang and Vasseur. The results on multi-d solution will be briefly introduced.

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