

Large Time Behavior of Solutions for the Navier-Stokes equations for compressible fluid in three dimension

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In this talk, we study the pointwise estimate of Green's function and coupling of nonlinear waves to the isentropic Navier-Stokes equations for compressible fluid in three dimension. Singular waves in the Green's function dominates short time behaviors. The explicit form of leading low frequency waves representing large time behavior of linearized equations is obtained to analyze nonlinear interactions of dissipation waves and pointwise estimates of the time-asymptotic behavior of the solutions which shows dissipation and generalized Huygens' principle.

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Joint work with: Tai-Ping, (*Institute of Mathematics, Academia Sinica*).