

# Wave motion around shock and boundary layers

SHIH-HSIEN YU\*

February 24, 2014

**Abstract:** In this talk we will give a survey on the wave motions of the Boltzmann equation. We will give a brief introduction of nonlinear hyperbolic conservation laws and the connection between the Boltzmann equation and gas dynamics. We will highlight the development of the fundamental solution of the Boltzmann equation, particularly the connection to the theory for the hyperbolic equations. Finally, applications of the Green's function to the study of nonlinear layers for the Boltzmann equation will be presented.

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\*National University of Singapore