$L^1$-stability theory of the Boltzmann equation

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Abstract

In this talk, I will survey a recent progress for the $L^1$-stability theory of the Boltzmann equation. The uniform $L^1$-stability of mild solutions to the Boltzmann equation will be obtained via a robust nonlinear functional which is equivalent to the $L^1$-distance between two solutions. This functional satisfies a Lyapunov estimate that is monotone decreasing along mild solutions in time $t$. 