Inverse Problems for the Boltzmann Equation

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Kinetic theory provides an effective description of the dynamics of a large number of interacting particles. One of the representative models is the Boltzmann equation. In this talk, we will discuss reconstruction of the collision kernel, charactering the particle interactions, in the nonlinear Boltzmann equation. The main approach is based on the recent developed linearization scheme that helps to reduce the original question into the inverse source problem.