

Workshop

Analysis of transport equations:

Vlasov and related models

Talk given by

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Title. *The Cauchy problem for radially symmetric homogeneous Boltzmann equation with Shubin class initial datum.*

Abstract. In this talk, we study the Cauchy problem for radially symmetric homogeneous non-cutoff Boltzmann equation with Maxwellian molecules, the initial datum belongs to Shubin space of the negative index which can be characterized by spectral decomposition of the harmonic oscillators. The Shubin space of the negative index contains the measure functions. Based on this spectral decomposition, we construct the weak solution with Shubin class initial datum, we also prove that the Cauchy problem enjoys Gelfand-Shilov smoothing effect, meaning that the smoothing properties are the same as the Cauchy problem defined by the evolution equation associated to a fractional harmonic oscillator.