

國立中山大學應用數學系

學術演講

講者：陳逸昆 教授
日本京都大學

講題：Regularity of stationary solutions to the
linearized Boltzmann equations

時間：2016/8/25（星期四）14:10 ~ 15:00

地點：理學院四樓理 SC 4009-1 室

茶會：15:00 於理 SC 4010 室（系辦公室）

摘要

We consider the regularity of solutions to the stationary linearized Boltzmann equations in bounded C^1 convex domains in \mathbb{R}^3 for gases with cutoff hard potential and cutoff Maxwellian gases. Suppose that a solution has a bounded weighted L^2 norm in space and velocity with the weight of collision frequency, which is a typical functional space for existence results for boundary value problems. We prove that this solution is Hölder continuous with order $\frac{1}{2}^-$ away from the boundary provided the incoming data have the same regularity and uniformly bounded by a fixed function in velocity with finite weighted L^2 norm with the weight of collision frequency. A smoothing effect due to the combination of collision and transport is used in the proof.

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