

國立中山大學應用數學系

學術演講

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講 題：The Hydrodynamic Escape Phenomenon in
Planetary Atmospheres

時 間：2016/11/03（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

Spacecraft exploration of the planets in our solar system and the discovery of exoplanets has been raised a great interest in atmospheric escape from planetary objects. The hydrodynamic escape problem (HEP) is significant on the study of the evolution of planetary atmospheres. In this talk, I will briefly explain this physical phenomenon, and introduce our mathematical work on this problem, which is characterized by the Euler equation with gravity and heat. We characterize the transonic stationary solutions for HEP by the geometric singular perturbation method. On the other hand, the global existence of transonic solutions for HEP is established by the generalized Glimm's method. The range of the hydrodynamic escape region in planetary atmospheres will also be discussed.

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