



專題演講

Kelvin-Helmholtz Instability in the Solar Atmosphere, Solar Wind and Geomagnetosphere

Speaker : **Prof. Vladimir Mishin**

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Time : 106 年 12 月 8 日 星期五 14:00

Place : 健雄館(科四館) S4-817-1 教室

摘要/Abstract :

We briefly describe main theoretical results of KH instability linear approximation and analyze observational data, confirming the occurrence of KH instability in magnetic formations of the solar coronal plasma and on the daytime magnetopause. We show that the Rayleigh –Taylor instability can significantly enhance the KH instability in above regions due to interface accelerations or its curvature. Special attention is focused on the compressibility effect on the supersonic shear flow instability in the solar wind (SW) and at the geomagnetic tail boundary where this instability is usually considered to be ineffective. We emphasize that the magnetic field and plasma density inhomogeneity which weaken the KH instability of subsonic shear flows, in the case of a supersonic velocity difference can significantly increase the instability. Effective generation of oblique disturbances by the supersonic KH instability explains observations of magnetosonic waves and the formation of diffuse shear flows in SW and on the distant magnetotail boundary, as well as the SW- magnetosphere energy and impulse transfer.

※歡迎聽講※

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