SEMINAR

專題演講

國立中央大學 太空科學與工程學系

Department of Space Science and Engineering, National Central University

Time

Monday, November 17, 2025
13:00 – 14:00

Place

健雄館(科四館)

S4-917 教室
Room S4-917,
Chien-Shiung Building

Dust detection using antenna instruments in space, lab, and modeling perspectives

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Electric field instruments on spacecraft complement dedicated dust detectors by registering transient voltage perturbations caused by impact-generated plasma. The signal waveform contains information about the interaction between the impact-generated plasma cloud, ambient plasma environment, and the elements of SC-antenna system. In this talk, we will i) review the dust impact measurements performed by various space missions (e.g., Voyager, Wind, Cassini, STEREO, Juno, MAVEN, MMS, PSP, SolO, etc.); ii) present recent updates of laboratory measurements; and introduce iii) the extended electrostatic model we proposed. These perspectives provide a comprehensive understanding of dust detection through plasma wave instruments, bridging observations, experiments, and theoretical modeling.