

## Development of a Low-Energy Electron Instrument LEP-e for the ERG Mission Development of a Low-Energy Electron Instrument LEP-e for the ERG Mission

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Plasma and Space Science Center (PSSC) at National Cheng Kung University (NCKU) in Taiwan is now developing a low-energy electron instrument LEP-e for JAXA's radiation belts observation mission ERG (Energization and Radiation in Geospace). The LEP-e instrument measures electrons in the inner magnetosphere with energies from ~10eV to ~20keV to give key information on background plasmas, in which electron accelerations to a MeV range take place. The instrument is a tophat-type electrostatic analyzer with multi-channel plates, similar to those on the NOZOMI and REIMEI missions. In the ERG mission, the keypoint of plasma instruments is to suppress effects due to background radiations. LEP-e employs 6mm-thick aluminum shields for the analyzer, and 5mm-thick shields for the electronics. In addition, LEP-e has a background noise channel, and an electron count is estimated by subtracting a noise count. In the presentation, instrument performance, estimated radiation effects and the current status of the development will be discussed.

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