

ERG/LEP-e Development and Its Current Status

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The ERG (Exploration of energization and Radiation in Geospace) mission is a collaboration project between ISAS/JAXA (Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency, Japan), NCKU (National Cheng Kung University, Taiwan) and ASIAA (Academia Sinica Institute of Astronomy and Astrophysics, Taiwan). The purpose of this mission is to explore the dynamics in the inner magnetosphere of the Earth. The Taiwan team is responsible for providing a particle instrument LEP-e (Low Energy Particle, Electron analyzer) as well as processing its mission data. The LEP-e will be installed on the ERG satellite for measuring 3-D electron distribution in an energy range of 10 eV to 19 keV with a resolution of 0.09 $\Delta E/E$. The field of view is 2.86 deg x 270 deg consisting of 10 coarse channels and 12 fine channels in azimuth. The geometric factor for a coarse channel and a fine channel are $9.6 \times 10^{-4} \text{ cm}^2 \text{ str keV/keV}$ and $1.5 \times 10^{-4} \text{ cm}^2 \text{ str keV/keV}$, respectively. Now the flight model of LEP-e is under calibration and test. In this presentation, we will introduce the LEP-e instrument as well as reporting its current development status.