Calibration Test for Low Energy Ion Spectrometer onboard of Geostationary Satellites

Kai Liu, Yiren Li, and Xin Li
University of Science and Technology of China, School of Earth and Space Science, Hefei, China (kailiu@ustc.edu.cn)

Detections for space environment are crucial for monitoring the safety of satellites, while the parameters of space plasma are fundamental. Thus, we developed a spectrometer onboard of geostationary satellites, and it can measure the low energy ion’s 3-D energy spectrum with a single sensor. To ensure the performance of the instrument, environmental tests, such as impulse test, vibration test and thermal test, were proceeded. Furthermore, a fully calibration test has been carried out to obtain all the scaling parameters. In this paper, the facilities and processes of the calibration test will be illustrated in detail, and the test’s results indicate that our spectrometer will function well in the geostationary orbit.