

Poster Session (P)

Poster Lunch (1)

Author: Mrs. huiting Gao

China Academy of Space Technology (CAST), China, gaohuiting\_1100@126.com

## IN-FLIGHT ABSOLUTE RADIOMETRIC CALIBRATION VERIFICATION METHOD OF SOLAR BLIND ULTRAVIOLET CAMERA BASED ON ULTRAVIOLET STARS

### Abstract

The Solar Blind Ultraviolet(SBUV) band(220-290nm) is an important spectrum used to detect the UV flame radiation of the missile in its initiative stage, because of the absorption of ozone, the image of the space-based SBUV remote sensor only includes the information above the ozone with the minimal false alarm rate. In order to resolve the application question of quantitative remote sensing without the onboard calibrated device, by analyzing the on-orbit measurement results of overseas SBUV sensors, one in-flight absolute radiometric calibration methods to modificate calibration coefficients based on the feature of atmospheric radiation under observed constraints is put forward. The in-flight absolute radiometric calibration verification method based on ultraviolet stars is adopt at the same time considering their long-term spectrum radiation stability and the radiance similarity between the atmospheric background and them.IUE published by ESA is a ultraviolet star catalog which includes the spectral data over two hundreds stars,considering the feature of the star image as point target,the relationship between the spectral radiant flux density of stars and the response of camera is described through the on-orbit absolute radiometric calibration equation.The basic principle, the data operating method and the validation process is described detailedly, which will benefit the engineering application of SBUV remote cameras.