

SMALL SATELLITE MISSIONS SYMPOSIUM (B4)
Small Space Science Missions (2)

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NEAR INFRARED CAMERA FOR ASTRONOMY IN THE SMALL SATELLITE STSAT-3

Abstract

The MIRIS SOC (Multi-purpose IR Imaging System Space Observation Camera, hereafter SOC) is the main payload of the third Korean scientific small satellite STSAT-3. The SOC is a Near IR (NIR, 0.9 - 2.0 μm) imaging camera with an aperture of 80 mm and a field of view of 3.67 x 3.67 degrees, using a 256x256 PICNIC sensor. The telescope part of the SOC will be cooled down to 180 K by radiative cooling to reduce the thermal noise and the dewar part will be cooled down to 80 K for best performance of the IR sensor. There are two scientific goals for the SOC: one is to detect the Cosmic IR Background (CIRB) emission for studying the origin and distribution of the CIRB. The other is to survey the Pa α emission line along the Galactic plane for researching the warm ionized medium. There is a filter wheel and 6 filters in the Dewar for those objectives. The SOC flight model has been developed successfully and it will be tested and calibrated by the end of 2010. The STSAT-3 shall be launched in the middle of 2011 for its mission of 2 years.