

Overview of the ASIM Miniature Multispectral Imaging Array (MMIA)

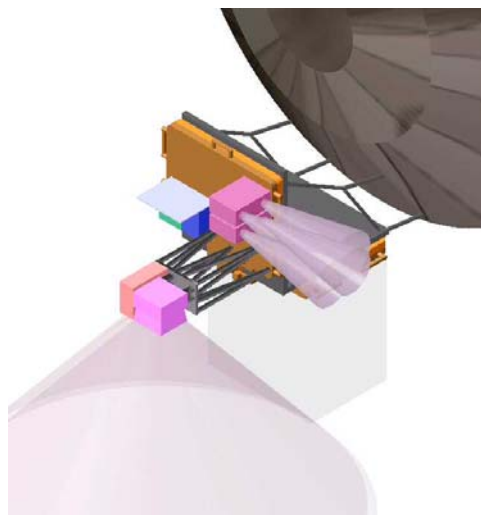
Steen Laursen (sl@spacecenter.dk), Torsten Neubert, (neubert@spacecenter.dk)

Danish National Space Center, Copenhagen, Denmark

The Atmosphere-Space Interactions Monitor (ASIM) is proposed for flight on the International Space Station (ISS) to observe Transient Luminous Events (TLEs), Lightning-induced Electron Precipitation (LEPs), and Terrestrial Gamma-ray Flashes (TGFs). ASIM is baselined with six optical imagers and three UV photometers included in the Miniature Multi-spectral Imaging Array (MMIA), and one X- and γ -ray detector, the Miniature X- and Gamma-ray Sensor (MXGS). The requirements placed on the MMIA instruments are driven by the need to

- (1) Resolve the spatial structure of TLEs at a resolution comparable to ground observations – and better than done in other missions (*CCD/optics*)
- (2) Resolve the dynamics of sprites and elves at high time-resolution (*UV photometers*)
- (3) Sample the electron energy distribution in TLEs (*several cameras, some with filters*), a
- (4) Correlate observations with those from other sources such as the MXGS and ground based lightning networks (*time, location accuracy*).

The talk will discuss the requirements placed on MMIA and the considerations leading to its baseline design.



The ASIM instrument on the ISS.