

SPACE EXPLORATION SYMPOSIUM (A3)  
Space Based Astronomy (4)

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THE EXTREME ULTRAVIOLET IMAGER (EUI) ONBOARD THE SOLAR ORBITER MISSION

**Abstract**

The EUI instrument suite on board of Solar Orbiter is composed of two high resolution imagers (HRI), one at Lyman- and one dual band in the extreme UV, and one dual band full-sun imager (FSI) working alternatively at two the two 174 and 304 EUV passbands. In all the units, the image is produced by a mirror-telescope, working in nearly normal incidence. The EUV reflectivity of the optical surfaces is obtained with specific EUV multilayered coatings, providing the spectral selection of the EUV units (1 HRI and 1 FSI). The spectral selection is complemented with very thin filters rejecting the visible and IR radiation. Due to its orbit, EUI / Solar Orbiter will see 25 solar constants and a entrance baffle to limit the solar heat input into EUI is needed. This baffle is optically tested in order to measure its rejection and to correlate the optical and thermal models. Tests results and thermal design will be presented. The paper will also cover the EUI instrument development plan which will require some trade-off between existing and promising technologies. The carried out advanced technological assessments with the aim of achieving TRL 5 by the end of 2009, will be presented.