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EUV Snapshot Imaging Spectrograph (ESIS) Baffle Design

The Extreme Ultra-Violet Snapshot Imaging Spectrograph (ESIS) is a solar camera scheduled to launch on board a sounding rocket in August 2018. ESIS images the sun over a large field of view in multiple spectral orders, allowing it to simultaneously collect spatial and spectral data. Since images are collected in specific wavelengths, any direct illumination of the CCD cameras from the sun would defeat the purpose of the experiment. Optical baffles are used to eliminate the potential for this to occur, as well as limit potential stray light reflecting onto the CCDs. Due to compact system design, variations in optical geometry, and numerous optical path crossings, designing an effective baffle system for ESIS presented several unique challenges. Using Z-Max ray-tracing and CREO Parametric modeling software we created an effective design using six flat baffles along the experiment's length.