

Abstract Submitted
for the NWS10 Meeting of
The American Physical Society

Beyond the Limb: A Narrow Band EUV search for Background Objects with the AIA SAM SCHONFELD, Whitman College — As the star closest to Earth, the Sun provides us with the opportunity to study up close and test models for X-ray stellar activity. Its close proximity (and consequent brightness), however, makes it challenging to observe the Sun and other celestial objects with the same instrument; thus instrumental cross-calibration difficulties have complicated comparison of the Sun with other stars. The new Solar Dynamics Observatory (SDO) launched in February 2010 may at last allow for direct comparison of the Sun and other stars. The Atmospheric Imaging Assembly (AIA) onboard the SDO, a series of telescopes taking images of the full Sun at high spatial and temporal resolution in seven extreme ultraviolet (EUV) pass bands, can potentially observe background objects passing within the field of view of the telescopes off the limb of the Sun. Young stars and other strong X-ray and EUV emitters may be bright enough to observe after careful background subtraction. Using technical specifications of the telescopes and measured X-ray fluxes of various background sources, we determined that with exposure times of the order of minutes, significantly longer than the standard ~ 3 s exposure, we should be able to observe the brightest background sources when they pass in the AIA field of view. We also began determining what kinds of instrumental limitations we need to overcome and how best to make observations of these dim background sources.

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Date submitted: 24 Aug 2010

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