

## **SWAP: Sun Watcher using APS detector on-board PROBA II, a new EUV imager for solar monitoring**

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SWAP (*Sun Watcher using Active Pixel System detector and Image Processing*) is a solar EUV imager that has been selected to fly in 2006 on the PROBA-II technological platform, an ESA program. SWAP will use an off-axis Ritchey Chretien telescope equipped with a specifically EUV enhanced CMOS APS detector. This type of detector has advantages that promise to be very profitable for solar EUV imaging. SWAP will provide solar corona images in the Fe XII line on a baseline 1-min cadence. Observations with this specific wavelength allow detecting phenomena, such as solar flares or 'EIT-waves', associated with the early phase of coronal mass ejections. Image recognition software will be developed that automatically detects these phenomena and sends out space weather warnings. The instrument and the software are designed such that SWAP is in fact a high performance solar monitoring tool to be used in operational space weather forecasting. For budget reasons however, PROBA-2 is planned to be launched in a noon-midnight LEO orbit. If so, this would mean that SWAP will be in the shadow of the Earth for 1/3th of every orbit. This would severely limit the use of SWAP for space weather operations. We are actively trying to find a solution to this problem.