

The Lyman Alpha Imaging-Monitor Experiment (LAIME) for TESIS/CORONAS-PHOTON

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LAIME, the Lyman Alpha Imaging-Monitor Experiment, is a remarkably simple (no mechanisms) and compact (100x100x400 mm) full Sun imager to be flown with TESIS on the CORONAS-PHOTON mission (launch expected before mid-2008). As such it will be the only true chromospheric imager to be flown in the next years, supporting TESIS EUV-XUV imaging, SDO and the Belgian LYRA (Lyman Alpha flux monitor) on the ESA PROBA-2 microsatellite (launch expected in September 2007).

We will give a short description of this unique Ø60 mm aperture imaging telescope, dedicated to the investigating of the magnetic sources of solar variability in the UV and chromospheric and coronal disruptive events, rapid waves (Moreton waves), “disparitions brusques” of prominences, filaments eruptions and CMEs' onset. The resolution (pixel) is 2.7 arcsec, the field of view 1.4 solar radius and the acquisition cadence could be as high as 1 image/minute. The back thinned E2V CCD in the focal plane is using frame transfer to avoid shutter and mechanisms. Further more the double Lyman Alpha filtering allows a 40 Å FWHM bandwidth and excellent rejection yet providing a vacuum seal design of the telescope (MgF2 entrance window). Structural stability of the telescope focal length (1 m) is preserved, by a 4-INVVAR bars design with Aluminium compensation, in a large $\pm 10^\circ$ around 20° .