

PROBA2 SWT 14 ☀ 16 OCTOBER 2016 ☀ MATTHEW J WEST

GUEST INVESTIGATOR PROGRAM REVIEW

GI PROGRAM REVIEW

6 ROUNDS COMPLETE

- Round 1 - Sep 2010 - Sep 2011
- Round 2 - Sep 2011 - Jun 2012
- Round 3 - Sep 2012 - Jun 2013
- Round 4 - Sep 2013 - Jun 2014
- Round 5 - Aug 2014 - Apr 2015
- Round 6 - May 2015 - Apr 2016
- Round 7 - Apr 2016 -

6 ROUNDS COMPLETE

- 48 Guest Investigator Teams
- 55 Guest Investigators have visited ROB
- 4 to visit
- 15 Countries
- 9 Mphys / PhD Thesis

AREAS OF STUDY

FLOWS AND ERUPTIONS

- Study of the solar inner corona and search for quasi-stationary coronal streams from active regions using SWAP off-disk observations
- Connection between solar flares and CMEs
- Investigation of Jet-like TR/ Coronal Phenomena and mini-CMEs in 171 and 304
- Study of CME Onsets and EUV waves with SWAP on PROBA2
- Study of the origin, evolution and geo-effectiveness of 'narrow' CMEs
- Regularities of CME propagation in new solar cycle according to data from PROBA2, STEREO and LASCO
- Studying the Low-Corona Initiation Phase of CMEs
- Estimation of acceleration and evolution of angular width of Coronal Mass Ejections within SWAP FOV using CACTus.
- Role of eruptive filaments/prominences in initiation and propagation of CMEs in heliosphere using SWAP & LYRA Observations

FLARES

- Investigation of UV radiation of solar flares with LYRA
- Probing flare reconnection regions with LYRA and AIA
- Investigation of solar flares at the Lyman-alpha wavelength with LYRA & GOES data
- Modelling flare induced ionization enhancements of the lower ionosphere with LYRA data.

IRRADIANCE & EMISSION STUDIES

- Investigation of UV radiation of solar flares with LYRA
- Probing flare reconnection regions with LYRA and AIA
- Investigation of solar flares at the Lyman-alpha wavelength with LYRA & GOES data

CORONAL HOLES

- Studies of coronal holes and solar wind velocity forecasts based on SWAP data analysis
- EUV/Xray jets from coronal holes and the origin of the solar wind

CALIBRATION STUDIES

- Cross-Calibration and Comparison of LYRA and SOLSTICE
- Blind deconvolution technique for accurately estimating the PSF of SWAP
- Degradation analysis of SDO-EVE and PROBA-2 LYRA data

SOLAR VARIABILITY

- Reconstructing the solar variability from bandpass measurements
- Long-term study of the solar EUV corona, its dependence on the magnetic field structure and local sources of plasma outflow

EUV WAVES

- Drivers and character of EIT waves
- The relationship between the on-disk "EIT wave" and its associated CME
- Studying the dome-like structure of large scale coronal propagating fronts and their relation with shock waves.

FILAMENTS & PROMINENCES

- Study of the pre-eruptive and eruptive phase of filaments/prominences in EUV 17.5nm using SWAP telescope on PROBA2

QPPS

- Nature of red noise processes in solar flares and effect on observations of QPP.
- Enhancing understanding of pulsations in flares using LYRA data

ACTIVE REGIONS

- Studying AR-AR Reconnection after Flux Emergence.
- Search for active region expansion using PROBA2/SWAP.

PSEUDOSTREAMERS AND STREAMERS

- Combining SWAP and CoMP to study coronal pseudostreamers and their influence on solar wind speeds.
- Performing tomographic reconstruction, in order to study the geometrical properties of coronal streamers.

COLLABORATIONS

- Observations and Modelling of Solar Coronal Structures Using High-Resolution Eclipse Images and Space-based telescopes with Wide FOV

LOOPS

- Investigating the nature and extent of large-scale AR loop expansion off-limb.

PLUMES

- Morphology of evolution of plume and inter-plume regions.

SOLAR WIND

- Transients and their role in heating and acceleration of the solar wind
- Solar EUV & solar wind effects on the ionosphere of Venus.

PLANETARY STUDIES

- Effects of the EUV on Venus' Ionosphere