SO/PHI data request form

(Cruise phase + first science orbit; SO/PHI-Team internal version)

Magnetic footpoints of active region loops

Lakshmi Pradeep Chitta

Max Planck Institute for Solar System Research

Science case (stay on one slide):

Please also state, why is PHI needed; why is the science unique?

- Using Sunrise high-resolution observations, we identified cancellation of mixed-polarity magnetic field patches at the footpoints of loops in active regions. This cancellation process and associated reconnection could heat the overlying corona. SO/PHI will be able to provide longer time sequence covering a larger field of view than Sunrise. With the proposed observing sequence, we would address the issue of prevalence of magnetic flux cancellation/emergence at the footpoints of coronal loops in active regions.

Requirements/data (use additional slide if needed)

Besides best guess requirements, you may also list minimum requirements on the data

- Type of solar feature: **Active region or prominent magnetic bipoles closer to the disk center.**
- HRT or FDT: **HRT**
- Physical parameters needed (available: B_LOS, vector B, v_LOS, I_c, raw data): **B_LOS**
- Total length of observation: **4 hours**
- Cadence (maximum 1 dataset/min): **1 minute**
- Pointing needs (disc centre, limb, active region location, particular μ): **active region / bipoles near disk center**
- Orbit needs (spatial resolution/co-rotation/angle to Earth/angle to other spacecraft):
- Total number of datasets: **4**
- Full frame 2k x 2k or partial frame 1kx1k, 0.5kx0.5: **Full frame**
- Full resolution or 2x2, 4x4 binned data: **Full resolution**
- noise level (default 10^{-3}): **Default**
- Co-observations with other instruments: **SO/EUI**
- Special requests: