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

Coronal bright points, their structure and possible eruption

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Science case (stay on one slide):
Please also state, why is PHI needed; why is the science unique?

- With its improved spatial resolution EUI will show increased detail of coronal bright points, bundles of compact loops reaching a million Kelvin that are associated with small magnetic patches of opposite polarity lasting for one to several hours. Essentially, this is similar to a miniature version of an active region. Preliminary results of the emission measure with SPICE shows that the effects are strongest at low temperatures around and below 0.1 MK, thus suggesting that these bright points are predominantly heated from below. Besides EUI/HRI/174, the observations should also include EUI/HRI/Ly-a and SPICE to ensure good co-alignment and to study the thermal structure of the bright points. The combination of following the coronal evolution at unprecedented resolution and an investigation of the magnetic structure at matching resolution with PHI will shed new light on our understanding of coronal bright points.

- Related to "Flux emergences directly related to coronal bright points".

Requirements/data   (use additional slide if needed)
Besides best guess requirements, you may also list minimum requirements on the data

- Type of solar feature: **quiet Sun and coronal hole (i.e. two campaigns should be a coronal hole be available)**

- HRT or FDT: **HRT**

- Physical parameters needed (available: B_LOS, vector B, v_LOS, I_c, raw data): **B_los, I_c**

- Total length of observation: **3 hours**

- Cadence (maximum 1 dataset/min): **5 min or 10 min**

- Pointing needs (disc centre, limb, active region location, particular μ): **QS @ disk center, CH wherever it is**

- Orbit needs (spatial resolution/co-rotation/angle to Earth/angle to other spacecraft): **below 0.5 AU (resolution)**

- Total number of datasets: **36 (for two campaigns, QS and if available CH)**

- Full frame 2k x 2k or partial frame 1kx1k, 0.5kx0.5: **full frame (to maximize FOV)**

- Full resolution or 2x2, 4x4 binned data: **full resolution**

- noise level (default 10^{-3}): ???

- Co-observations with other instruments: EUI/HRI/174; EUI/HRI/Lya; SPICE

- Special requests: