INSTANT – INvestigation of Solar-Terrestrial Activity aNd Transients

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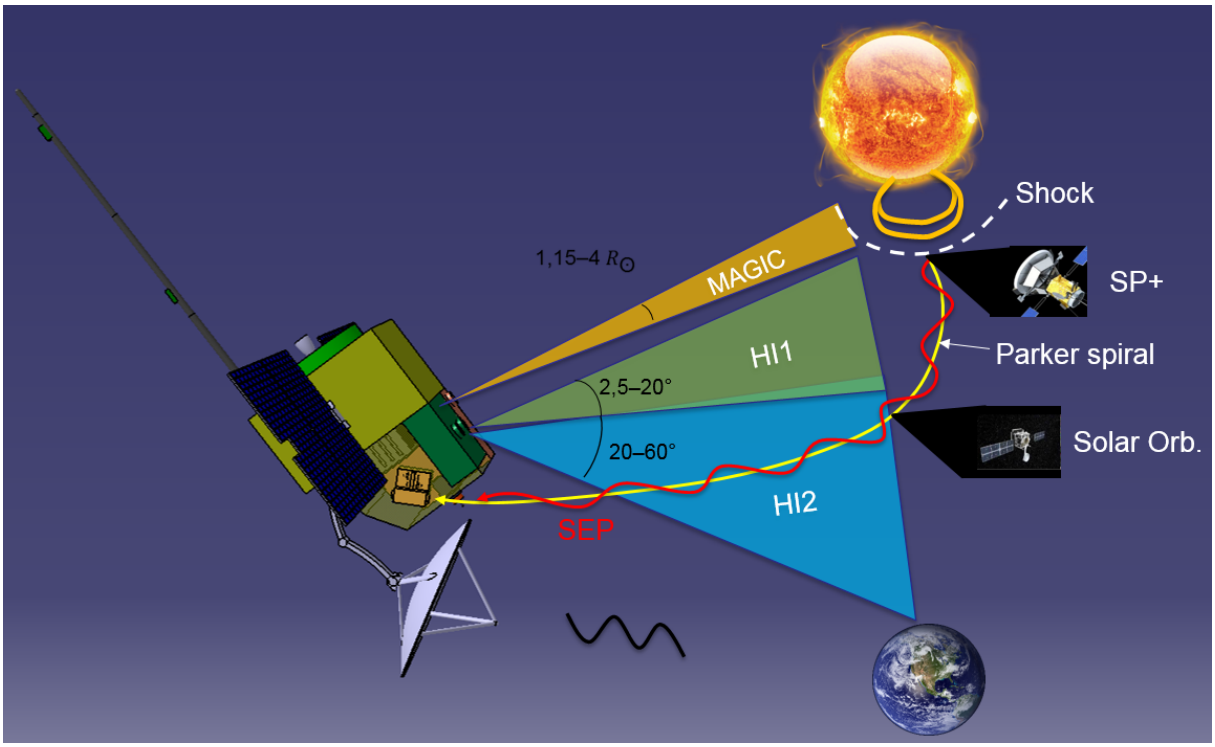

Figure 1: Basic INSTANT spacecraft configuration

We will present both the science objectives and related instrumentation of a small solar and heliospheric mission concept, INSTANT: INvestigation of Solar-Terrestrial Activity aNd Transients. It will be submitted as an opportunity to the upcoming ESA-China S-class mission call later this year. This concept was conceived to allow innovative measurements and unprecedented, early determination of key properties of Earthbound CMEs from the L5 vantage point. Innovative measurements will include magnetic field determination in the corona thanks to polarimetric Hanle measurement in Lyman-α and polarized heliospheric imaging for accurate determination of CME trajectories. With complementary in situ measurements, it will uniquely permit solar storm science, solar storm surveillance, and synergy with Solar Orbiter and Solar Probe Plus (the ESA-China S2 mission launch is planned in 2021).