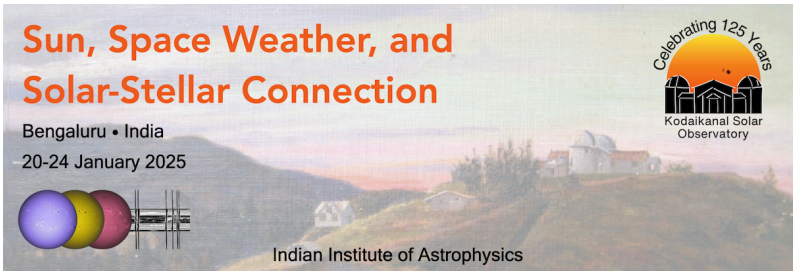

Contribution ID: **107** Type: **Invited review talk**

Investigating the Possible Origin of Magnetic Switchbacks in the Low Solar Atmosphere

Friday, January 24, 2025 4:15 PM (25 minutes)

The recent in situ observations in the young solar wind made by Parker Solar Probe PSP, revealed a small-scale structuring of the magnetic field that consists of sudden magnetic deflections. These "switchbacks" are particularly pronounced in the radial component of the field, and have a duration of a few seconds to a few hours. These structures are not new but PSP observations uncovered that they are ubiquitous in the young solar wind. There is currently no unique generation model explaining all the switchback's observed properties. However, there is a growing consensus that dynamical processes, such as a variety of jetting activity in the solar atmosphere can be the seed of deflections becoming switchbacks in the expanding solar wind. I will present two recent works, one observational and one numerical, in which we aim to test this hypothesis. These two approaches are complementary as from the observations (in situ and remote-sensing ones) alone we are missing informations on the propagation of the structures. I will conclude on the current state of knowledge and on what one should focus on in future studies.

Contribution Type

Theme

Connecting Solar Corona to Heliosphere

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Presenter: FROMENT, Clara (CNRS/LPC2E-Orléans)

Session Classification: Representative Results from New Heliospheric Missions