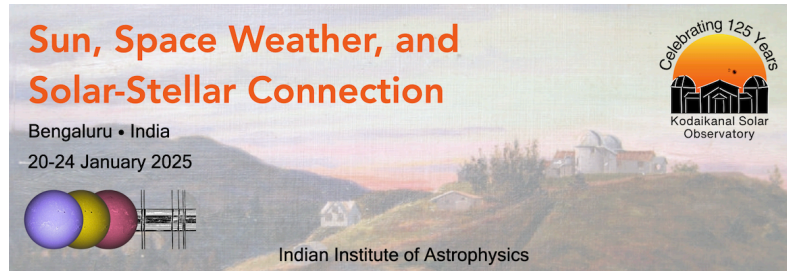


Sun, Space Weather, and Solar-Stellar Connection



Contribution ID: 96

Type: **Poster**

MHD simulation of flux rope eruption underneath coronal streamers

We develop 3D MHD model in spherical geometry in the Pencil Code framework to understand the dependence of solar wind properties near a coronal streamer by varying the magnetic field and in-situ volumetric heating. The model additionally includes anisotropic heat conduction along field lines, optically thin radiative cooling and a semi-relativistic correction to Lorentz force. Our final aim is to understand the coronal flux rope activation or CME initiation conditions in presence of the ambient magnetic field that has been stretched by the solar wind. This kind of topology is close to H-alpha polar crown filaments observed on the Sun during migration of poloidal flux of the new cycle to the solar poles.

Contribution Type

Poster

Theme

Energetic Phenomena

Primary authors: CHATTERJEE, Piyali (IIA); Mr MAITY, Samriddhi (NASA GSFC & IIA)

Presenter: CHATTERJEE, Piyali (IIA)