

Solar Jets from Active Region NOAA 12811

Ramesh Chandra¹, Pooja Devi¹, Sanjay Kumar², Reetika Joshi³, Brigitte Schmieder⁴

¹Department of Physics, DSB Campus, Kumaun University, Nainital, India ²Patna university, Patna, India ³Institute of Theoretical Astrophysics, University of Oslo, Oslo, Norway ⁴Observatoire de Paris, LESIA, Meudon, France Email: ramesh.chandra@kunainital.ac.in

Solar jets are collimated plasma ejections observed in whole electromagnetic spectrum. Here, We analyze a solar jet with data of multi-temperature Atmospheric Imaging Assembly (AIA) onboard Solar Dynamics Observatory (SDO) and Interface Region Imaging Spectrograph (IRIS) instruments from NOAA AR 12811 on March 24, 2021. The hot jet is embedded with cool plasma material observed absorption in AIA as and high-resolution IRIS slit-jaw images. IRIS observations manifested the presence of a null-point-like structure at the jet base. From the observations, it is evident that the null point is moving upwards as the jet evolves. The null-point-like structure is also evident in the 3D non-force-free extrapolation. The magnetic cause of the jet could be the emergence of magnetic flux followed by the localized flux cancellation.