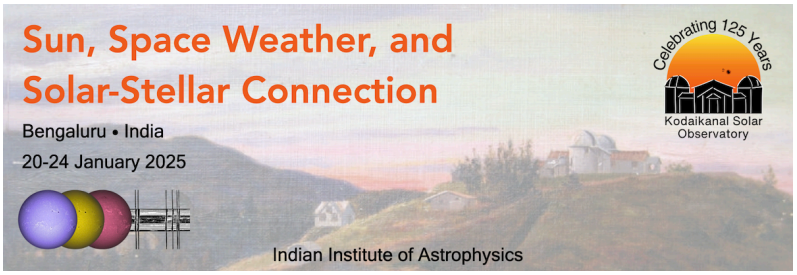


Contribution ID: **108** Type: **Invited talk**

# Recent Results on Solar Wind and Suprathermal Ions in the Interplanetary Medium and the Relevance of Aditya Solar Wind Particle Experiment (ASPEX) On-Board Aditya-L1

*Friday, January 24, 2025 2:00 PM (20 minutes)*

The alpha (doubly ionized Helium or He2+) to proton (Singly Ionized Hydrogen or H+) ratios (AHe = Na/Np*100) in the solar wind showed distinctive changes in the solar cycle 24 compared to the previous three solar cycles. Further, this ratio is often found to get enhanced in the interplanetary coronal mass ejections (ICME) and gets changed across the stream interface structures of the stream interaction region (SIR). On some occasions, AHe goes to very low values (compared to what is expected in the solar wind in general) as well. Some of the insights obtained from the recent results will be presented related to the above themes. Also, changes in the suprathermal ions in the quiet interplanetary medium during the last two solar cycles will be presented and contrasted with the corresponding variations in the stream interaction regions. Recent results obtained by analysing the upstream (of the terrestrial bow shock) events will also be discussed. It will be argued that directional, alpha-proton separated measurements of the ions in the interplanetary medium in both low and high energies by the Aditya Solar wind Particle Experiment on-board Aditya-L1 holds great potential to address some of the unresolved problems related to solar and heliospheric processes.

## Contribution Type

## Theme

Connecting Solar Corona to Heliosphere

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**Session Classification:** Representative Results from New Heliospheric Missions