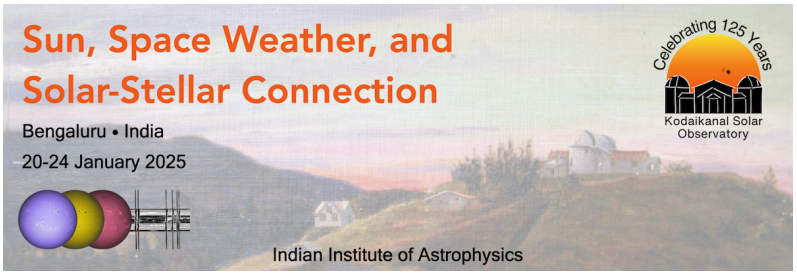

Contribution ID: **48** Type: **Contributed talk**

Localized Heating and Dynamics in Coronal and Chromospheric Plasmas due to a Symbiosis of WAves and Reconnection (SWAR)

Wednesday, January 22, 2025 10:00 AM (15 minutes)

Dissipation of electric current due to magnetic reconnection provides a viable physical mechanism for the heating and dynamics of solar plasma. However, magnetohydrodynamic (MHD) waves may also contribute to its dynamics and heating. External wave-like perturbations may drive reconnection in the solar chromosphere and corona, but coalescing plasmoids in a reconnecting current sheet can also generate waves. We present and review our recent observations and numerical models which show how wave-like perturbations can help forming a localized current sheets in the solar atmosphere and thereby heat it. We also demonstrate how the energetics and dynamics of the large-scale corona can be influences by waves emitted from reconnecting current sheets. Furthermore, we discuss the broad implications of such a Symbiosis of WAves and Reconnection (SWAR) for chromospheric and coronal dynamics at disparate scales.

Contribution Type

Theme

Solar Magnetism in High-Resolution

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