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Large coronal structures, helmet streamers and pseudostreamers, are widely considered as the sources of the slow solar wind, yet the release mechanisms and the origin of its variability remain poorly understood. We combine remote-sensing datasets with in-situ measurements to test how magnetic topology and plasma properties near the Sun are related to the slow wind intervals observed in in-situ measurements. Specifically, we estimate FIP-bias and Doppler outflows near the bases of selected structures using SPICE onboard Solar Orbiter, compute the squashing factor Q to highlight quasi-separatrix layers and candidate interchange-reconnection sites, and evaluate expansion factors along associated open field lines. These source-region properties are linked to sub-spacecraft footpoints via ballistic back-mapping coupled with PFSS, then compared with in-situ speed, composition, and charge states. Applying a common workflow across multiple targets and epochs, we assess whether pseudostreamers and helmet streamers imprint different composition–topology signatures on the emerging slow wind, and whether high-Q, high-expansion corridors coincide with intervals of enhanced variability. The talk will present the analysis pipeline, initial case studies, and how these joint constraints can discriminate among competing slow wind release scenarios.
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