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Poster
Abstract text: We report on initial results of spectral analysis of Ulysses SWOOPs proton and alpha density measurements using the multi-taper method. We find a strong increase of occurrence rate of Periodic Density Structures as a function of frequency, up to the Nyquist frequency of approximately 1 mHz for both the proton density and the alpha-to-proton density ratio. These results are consistent with recent results from Kepko et al., 2024, who analyzed 25 years of Wind/SWE data and found a correspondence between the distribution of density fluctuations observed in situ that peaked at 2 mHz with remote measurements of transverse velocity fluctuations of the Sun's corona, possibly associated with the Sun's internal acoustic modes. PUNCH will be able to measure and track these periodic density structures due to its unprecedented sensitivity and resolution to density structures over the poles of the Sun.
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