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Voyager observations of magnetic field turbulence in the far heliosheath and in the local interstellar medium. Power spectra from high-resolution data. DANIELA TORDELLA, Politecnico di Torino, FEDERICO FRATERNALE, Politecnico di Torino, DISAT, MICHELE IOVIENO, Politecnico di Torino, DIMEAS, JOHN D. RICHARDSON, MIT Kavli Institute for Astrophysics and Space Research (Cambridge, USA) — Voyager 2 (V2) is in the heliosheath (HS) since the termination shock crossing in Aug 2007, while V1 is in the local interstellar medium (LISM) since Aug 2012. The fundamental processes at the basis of the observed solar wind's disordered fluctuations are still unclear. Open points regard the nature of compressive turbulence within the sectored and unipolar HS in proximity of the heliopause and in the LISM. Possibility that MHD waves give origin to turbulence in the LISM has been recently suggested by Zank, Du Hunana [APJ 842,2017]. However, addressing these issues is a challenging task because of the data sparsity. We provide the first collection of magnetic field power spectra computed in consecutive periods after 2009 from 48s resolution data in the HS (V1, V2) and in the LISM (V1). A description of the fluctuations evolution with the heliocentric distance is given in terms of spectral decay law and anisotropy. In the HS, our observations are consistent with an anisotropic mainly inertial cascade in the frequency range $[10^{-5}, 5 \cdot 10^{-4}]$ Hz, with spectral slopes from -1.7 to -1.9. Larger scales may be featured by wavy fluctuations leading to a f^{-1} decay for $f < 10^{-5}$ Hz. LISM spectra show a f^{-1} power law in the whole observed range $[10^{-7}, 10^{-2}]$ Hz.

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