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Structure functions study of the hydrogen energetic neutral atom (H ENA) data observed with IBEX

S. Grzedzielski, J.M. Sokol, and M. Bzowski
Space Research Centre PAS, Warsaw, Poland (stangrze@cbk.waw.pl)

We employ the method of structure functions analysis to the H ENA fluxes observed by the IBEX-Hi detector (0.7-6 keV) on board of the IBEX spacecraft over four half-year scan periods (A,B,C,D) of the entire sky. The data are analyzed assuming the observed signal is a sum of two random processes, one originating within the inner heliosheath and the other beyond the heliopause. Statistical analysis of the reliability of obtained higher order moments of the probability distribution functions (PDFs) of the signal indicates that quality of data strongly depends on energy channel and period of observation. Regions with fair data quality suggest the underlying random processes are intermittent. For some sky regions and mid-energy channels it is possible to decompose the 2nd order structure functions into parts describing separately the heliosheath and external random process. This offers a way to explore the physical cause of the emissions responsible for the ENA Ribbon discovered by IBEX.