

The authors' application of Jensen-Shannon complexity and Fisher-Shannon information plane to solar wind fluctuations yields interesting and relevant findings for space plasma physics. The methodology is clearly and thoroughly explained, and the results and discussion sections of the manuscript are well-organized and effectively presented. The study is worthy of publication in NPG, with a minor correction.

The authors should cite previous studies that have investigated solar wind time series using entropy and nonlinear dynamics concepts, which have established the stochastic nature of solar wind. Please see my review comments below.

Introduction section

Page 1, Line 20: Please remove the abbreviation 'e.g.' from the citation bracket. Additionally, ensure that all instances of 'e.g.' are removed throughout the entire manuscript.

Page 2, Lines 55-65: While you discuss previous studies that applied Jensen-Shannon complexity analysis to solar wind fluctuations, you omit relevant literature that utilized entropy measures and other nonlinear dynamics tools to investigate solar wind fluctuations. These studies have consistently reported that solar wind exhibits stochastic behavior. Please consider incorporating these references to provide a more comprehensive overview of the field. See the article below for example.

<https://doi.org/10.1016/j.asr.2008.12.026>

<https://doi.org/10.5194/npg-28-257-2021>

<https://doi.org/10.1029/2018JA025318>

<https://doi.org/10.1007/s41614-022-00095-z>

Page 3, Line 65: "The Jensen-Shannon complexity analysis is only one of a number of methods to investigate the nature of fluctuation". The Jensen-shannon complexity metric is not the only information theory tools that have been applied in space plasma physics. The statement can be corrected as "The Jensen-Shannon complexity metric is also one of the information theory techniques that is useful to investigate the nature of solar wind fluctuation"

Page 3, Line 75-80: Rephrase the statement "The key purpose of the analysis presented in this paper has been to investigate how different complexity measures compared for different solar wind types presented above.

To

“The key purpose of this analysis is to examine how Jensen-Shannon complexity and Fisher-Shannon information plane capture the fluctuation signatures of distinct solar wind structures, including slow streams, fast streams, sheaths, and magnetic clouds.”

Data and Methods section

Page 3, line 85: It is better to use “The solar wind data used in this study”