

## ***Interactive comment on “On fluctuating momentum-exchange in idealised models of air-sea interaction” by Achim Wirth***

**Anonymous Referee #2**

Received and published: 11 September 2019

The manuscript discusses the atmosphere-ocean interaction with some tools used in statistical physics., namely, the Fluctuation Dissipation Relation, the Fluctuation Dissipation Theorem and the Fluctuation theorem. This is a novelty in the field of geophysical processes. The author present three different kinds of atmosphere-.sea interaction and he consider four types of forcing. That is, 12 different models.

In my opinion the manuscript must be accepted but after a improvement of the english writing. In the present version , the manuscript is hard to read.

- 1) In some case the paragraphs are so small and in my opinion it is possible to put as part of the previous paragraph.
- 2) I enclosed in this revision a pdf file with some suggestion to improve the English

C1

writing

The paper contains a section in which a discussion is made of the 12 models. However there is no section devoted to draw the main conclusions, for example to discuss the contribution of the use of statistical mechanics tools to the state of art of the atmosphere-sea interaction and the limitations of a linear study of this interaction (which is non linear)

Please also note the supplement to this comment:

<https://www.nonlin-processes-geophys-discuss.net/npg-2019-40/npg-2019-40-RC2-supplement.pdf>

---

Interactive comment on Nonlin. Processes Geophys. Discuss., <https://doi.org/10.5194/npg-2019-40>, 2019.

C2