

The revised version of the manuscript has considered some of my comments to my previous version, and has clarified some of the issues in the response.

However, there are a few issues which need to be improved in order to provide better arguments for the paper's results.

- 2) Reading references Livadiotis and McComas 2011b, and Livadiotis 2015c, I do not find that they specifically demonstrate that any correlation leads to a non-Maxwellian equilibrium. I understand that they show how correlations are related to the κ index, but starting from a velocity distribution already given by a kappa function.

But if a system has correlations, of any kind, and no assumption on the underlying distribution is made, will this inevitably lead to a kappa function? The references given do not seem to address this.

I note that the author mentions at some point "kappa distributions or combinations thereof". Which is a delicate argument in my opinion, because if an arbitrary distribution can be regarded as a combination of kappa distributions, then one should ask whether it would be mathematically possible to consider it as a combination of some other family of distributions. In which case the kappa distribution would not have a special status.

Anyway, if the author can clarify this and provide adequate references, this should be included in the manuscript.

- 3) The argument in the second paragraph of page 3 is not very clear, regarding the role of collisions in the persistence of correlations and of Tsallis distributions.

Since kappa/Tsallis distribution functions can be found in a variety of systems, both collisionless and collisional, then it should be more clear that the lack of collisionality could work as an argument for the particular case of space plasmas. Or maybe the author is, in fact, discussing this, by finding more general reasons for the occurrence of kappa distributions? If so, this emphasis should be more clear in the manuscript. If not, then it should be noted that it is one possible route for preserving correlations, which works for space plasmas.

- 5) In the new text, it is mentioned that weakly coupled plasmas can be described as ideal gases, from which the additivity of energy follows. However, in ideal gases particles are non-interacting, and thus should be Maxwellian. Is "ideal gas" the correct expression here?