

# Review of: "Tsallis Entropy applied to microfluidic channels analysis"

Ozan Burak Eriçok<sup>1</sup>

<sup>1</sup> University of California, Davis

**Potential competing interests:** No potential competing interests to declare.

This article consider Tsallis entropy in microfluidic flows with a small Reynold number regimes. Although the idea is valid, this article is far from complete and should be accordingly evaluated.

- I suggest the author to adapt a more scientific language rather than a language that represents taking notes to themselves.
- Some old work was mentioned in the introduction, but no references are provided.
- The geometry of the problem should be well explained and preseneted. A brief mention in the footnotes does not provide a rigorous explanation.
- I suggest the author that the derivation of the Tsallis entropy be done in the Appendix as the method of Lagrange multipliers and principle of maximum entropy are well-known textbook information. I suggest the author to focus more on the novelty of their approach in the main text rather than lengthy equations. I do think that they should be presented in the paper but linking these results to the novelty in the main text is more important.
- Apart from cosmetic issues, I suggest the author to justify why such a small Reynold number is chosen or apply the methodology for every regime, not just a very small laminar flow.
- I suggest the author to present the velocity provile (with the obstacle and the complete geometry) for each case and provide a comment on them.
- Although the initial analysis is done in 2D and that is acceptable to make sure that the theory works, I strongly suggest the author to at least perform preliminary analysis in 3D.
- I suggest the author to provide some comments on the runtime of the software and why it was selected.

Overall, I think that the author tries to improve their paper based on peer review suggestions, and that is okay, but this paper is far from complete as it is current form. I hope the author takes my comments to improve their paper rather than harsh criticisms.