

**Review of “General Formulation For the Distribution Problem: Prognostic Assumed PDF Approach Based on The Maximum–Entropy Principle and The Liouville Equation” by Yano et al.**

I would like to recommend this manuscript for publication after a minor revision. Following the reviewer’s previous comments, the authors have corrected Fig 2 and added more examples, all of which provide valuable insights for the readers to understand when and how the proposed method would work efficiently. Below, I have raised a few additional points to further enhance the quality. Further review of the revised manuscript will not be necessary, but please consider incorporating them into the manuscript.

## **Major Comments**

- 1) [question] P.46 ll.1182–1186 “In the case with the model (ii), the calculations with the exact distribution gets its own problem: ...”**

The mean and variance cannot be defined for some fat-tailed distributions such as the Cauchy distribution. I speculate that this may be the cause of the slow numerical convergence. What do you think?

- 2) [suggestions] Figs. 2 and 9**

If the exact solutions of the ODE do not blow up in finite time (e.g.,  $m = 0$  and  $1$  in Sec. 5.5, and (i) and (iii) in Appendix C), the moments predicted by the proposed method do not deviate significantly from the exact solutions. I think this is an interesting property worth highlighting somewhere in the manuscript.

## **Minor Comments**

- 3) [typo] P.21 l.589 “reply” -> “rely”**
- 4) [suggestion] P.28 l.803 “..., and in this case we find:” -> “..., and in this case we find for all  $n$ :”**
- 5) [typo] P.47 Fig.9 “(i) and (ii)” -> “(i) and (iii)”**