

Peer Review

# Review of: "Numerical Prediction of the Steady-State Distribution Under Stochastic Resetting from Measurements"

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This article describes an interesting numerical method to estimate the steady-state distribution of a system submitted to a specific resetting. The article is rather well written, and it can be published after the author has taken into account the following comments.

1) The method considers that the initial position is exactly  $x_0$ , which is not exact. Indeed, even in the experiments presented in the article, there is a distribution of  $x_0$  around a mean position. How is the steady-state pdf influenced by this distribution? This has to be discussed. Therefore, the method applies only to specific resettings where the fluctuations of  $x_0$  are small. In this sense, the method is not general, and the abstract should say this.

2) The statistics used in the experiment is not great. I understand that these experiments are slow, but at least in a numerical simulation for the single particle, the test could have been done a little better than what is done. Furthermore, I do not understand how, from the very noisy measurements plotted in fig 1a) in semilog scale, one can get such a smooth curve in linear scale in fig. 1b.

3) I do not understand the claim on page 5, second line. "We note that when  $M = 0$ ,  $P$  is also zero".  $M$  is the mean of  $P$  and  $Q$ , and there are no reasons to believe that if  $P = 0$ , then  $Q = 0$ . In such a case, the KL diverges.

4) At the end of page 6, "In these experiments, the two dominant interactions between colloidal particles are hard-core repulsion and hydrodynamic interactions mediated by the presence of the sample walls". I disagree; the dominant interaction is imposed by the Debye layers, and the

hydrodynamic interaction is among particles even far from the wall. The bottom is an extra perturbation.

## **Declarations**

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