Review of: "Einstein-AdS gravity coupled to nonlinear electrodynamics, magnetic black holes, thermodynamics in an extended phase space and Joule—Thomson expansion"

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Potential competing interests: No potential competing interests to declare.

I followed the new version of the article, the calculations and graphs are very impressive and so they seem to be correct, apparently. I also read the previous referee`s comments who pointed out very important points. However, I suggest two points to improve the article. One is that, the author should at least, shows in an appendix, that the proposed metric solution which is obtained by using only, the time-time component of the Einstein equation (integration of the density function to produce a mass function), does satisfy other components of the Einstein metric equation (the `rr`, `\theta-\theta`,`\phi-\phi` components)?. Same as the ordinary Einstein-Maxwell gravity with the Reissner–Nordström metric solution ? . It seems that it does not satisfy in NED-gravity models.

The second point which is should said is that, the additional cosmological parameter as an pressure variable in the extend phase space which is used to show equation of state of a black hole same as the Schwarzschild or the Reissner–Nordström, because, they have not regions with asymptotically AdS behavior. Usually, each black hole metric which behaves as ADS asymptotically at a local region via internal charges, same as the Ayon-Beato-Garcia model (arXiv:2205.15741 [gr-qc]) not needed to add a cosmological constant. This term produces an anti-gravity term which makes non-singular the line element and is used in order to obtain the pressure coordinate in the black hole thermodynamic state equation.

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