

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.

In this article, the thermodynamical phase of a AdS-NED black hole is studied in detail.

I think the study of the main part are well-organized and has sufficient quality.

While, the study itself is poorly motivated in the introduction as a scientific paper.

1: First, the author should take into account that NED theory is not commonly acknowledged concept even in the astrophysics field, and hence should explain the literature of the NED theory and NED black holes in one or two paragraphs.

Moreover, NED black holes are mostly studied in the context of astrophysics, in the asymptotically flat/de Sitter background.

So it would also be helpful to motivate why AdS NED black holes has been studied as well.

In the current version, the introduction is done only in one paragraph which is quite insufficient.

2: In addition, the author is encouraged to explain (if exist) the choice of the NED Lagrangian (eq.(2)) out of vast variety of possible NED Lagrangians.

Why this form ? Why $\gamma = 3/4$ specifically ? Does the choice $\gamma=3/4$ admit interesting/good property ?

3: In the conclusion, not just summarize the result, the author is encouraged to explain the meaning of the results in the literature such as:

How the choice $\gamma=3/4$ (or choice of the model in eq.(2)) makes the difference in the phase diagram among other model ?

If all the above points are improved, the article would deserve to be a scientific paper.