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.

Review of the article entitled "*Einstein-AdS gravity coupled to nonlinear electrodynamics, magnetic black holes, thermodynamics in an extended phase space and Joule–Thomson expansion*"

In the presented paper the authors have studied the thermodynamics in an extended phase space and Joule–Thomson expansion for a magnetic black hole in Einstein-AdS gravity coupled to nonlinear electrodynamics. The subject of the manuscript is interesting and in principle may be relevant to the astrophysical observations of the magnetic black hole in nonlinear electrodynamics although having more academic and theoretical interest for the unrealistic problem studied by the authors.

i) The title of the manuscript is suitable.

ii) The study performed in the manuscript is less in the scope of some repudiated journal.

iii) The text of Abstract and Conclusion section is more or less relevant to the research performed but it is advised to be edited.

iv) Referencing in the paper is more or less suitable although some citations to important papers have been ignored. Authors are advised to include the references of important papers.

v) I have looked through the calculations done in the manuscript which are based on the non-verified incorrect mathematical assumptions and it seems the obtained results are mathematically correct though do not have an astrophysical interest.

Since the study performed in this manuscript is mathematically correct and indeed of academic interest in addressing the thermodynamics properties in an extended phase space and Joule–Thomson expansion around the magnetic black holes in the specific metric from purely theoretical point of view. Therefore, I would advise to the authors the following:

a) Justify the validity of applicability of the equations in the relativistic astrophysics,

b) Modify the graphical representation with justification of numerical value of various parameters used in the study,

c) Improve the conclusion and discussion providing justification of highly importance of the obtained results.

Best Regards

Dr. Shubham Kala