

Review of: "Why Mature Galaxies Seem to have Filled the Universe shortly after the Big Bang — A New Cosmological Model, that Predicted the JWST Observations"

Rahul Kothari¹

¹ Indian Institute of Technology Mandi

Potential competing interests: No potential competing interests to declare.

In the paper, the author is trying to explain the JWST observations using a new cosmological model which is referred to as the 'Azimuthal Projection Model' by the author. The author also claims that the model won't require dark energy and predicts the correct Hubble's constant as obtained from the supernova data. The paper also seems to explain the Hubble tension and galaxy rotation curve.

My overall opinion is that the paper isn't written well. The paper can be made far better by working on grammatical, compositional, punctuational and spelling aspects. Also, the paper isn't structured very well. Some of the other possibilities for improvement are the following:

1. The figures in the paper are well labeled but still the connection between them isn't very clear.
2. It is not clear to me where the author is placing the galaxies in Figure 5. Are they placed on the surface of the sphere?
3. The style is very unconventional -- the author could've kept the abstract a bit smaller and could've introduced introductory things in Section 1. Moreover, the introduction could've talked more about JWST and its observations
4. The author nowhere cited the paper that was talked about in the abstract, "... which actually predicted such mature galaxies in a 2022 preprint ..."
5. In Section 2, the author claims that azimuthally projected meridians from Sphere in \mathbb{R}^3 are asymptotic along \mathbb{R}^2 plane. While in Section 3, the author uses a 2 sphere instead of a 3 plane where the asymptotics are put. This needs an explanation.
6. I wonder whether Eq. (15), aka Hubble's Law is still valid in author's model. This might be but it is not clear to me from the math done in the paper
7. Is there any physical meaning ascribable to the radius of \mathbb{R}^5 hypersphere in Eq. (17)?
8. The proper distance r and redshift are related through underlying cosmology and hence are related through cosmological parameters. Does the discussion in Section 6 pertaining to the conversion of z to x_n and vice versa also based on cosmological parameters?
9. Does gravity play any role in this model? If yes where?
10. Perhaps Section 9 can be written more clearly. In particular, it should be written how does author's model explains JWST observations

