

# Review of: "A Discussion on Our Universe Boundaries"

Hossein Ghaffarnejad<sup>1</sup>

<sup>1</sup> Semnan University

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

I read the entire article and the comments of other respected reviewers. I understood that the article is different from the models proposed in scientific literature such as Einstein's general relativity or Brans-Dicke's theory of gravity or Hoyle-Narlikar, etc., in terms of philosophical thinking. The author believes in the possibility of higher dimensions that string theory predicted for the first time. However, in practice, it has been acknowledged that it is difficult to obtain experimental tests for the proposed model. Regarding the experimental tests of string theory, we are also facing this big problem. Therefore, in order to extend the article and motivate the readers to follow the model proposed by the respected author, I suggest preparing at least a comparison of the measured quantities in celestial mechanics and cosmology and predictions of theoretical models. For instance, the displacement of the Mercury orbit's perigee point or the value of the Hubble constant, and so on. Prepare a table in which they are collected for comparison of the theoretical predictions of the presented model and other competing models mentioned above. It is natural that all these models are presented with different philosophical principles, but in practice, they are supposed to explain the nature we live in more accurately. I express this conclusion according to the experience in the history of the development of physics. For example, in the 18th century, Faraday presented the field concept instead of Newton's action at a far distance. Or Bohr's correspondence principle in the 20th century AD in matching the old quantum theory with the classical theory of matter. On the other side, we know that in Einstein's theory of general relativity, Newton's constant of gravity is a universal constant, while in the Brans-Dicke theory of gravity it acts as a dynamic variable. The existence of the Brans-Dicke parameter and its experimental adjustment helps the conformity of the predicted value of the displacement of the zenith of the planet Mercury with the BD theoretical predictions become more accurate than other models such as general relativity, Newton's gravity. Therefore, the Brans-Dicke theory is one of the better alternatives instead of Einstein's general relativity. The existence of such a comparison between the proposed theoretical model and other models and the experimental results of observations gives the confidence of the readers to follow that model in case of more accurate predictions than other gravity models.

Sincerely yours,

Hossein Ghaffarnejad

Prof. of Physics,

Faculty of Physics,

Semnan University,



Semnan, Iran,

35131-19111