



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	Physical Science International Journal
Manuscript Number:	Ms_PSIJ_31388
Title of the Manuscript:	Toy model of evolving quantum cosmology with dark energy
Type of Article:	Original Research Article

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
<p>I don't consider the general theory of relativity (GRT) and quantum mechanics as "head" and "tail" of the "cosmic coin", as the author of this paper believes. Since the standard model of the Universe dynamics, based on the GRT, is not yet able to give answers to questions about the essence of the dark energy and dark matter (96% of the Universe energy) as well as a physical essence of gravity. The acuteness of the problems of the standard model has been intensified by the failed attempts to link the dark energy density, determined from the experimentally determined value of the cosmological term in the equations of the GRT, with the parameters of the physical vacuum, introduced in the physics of elementary particles (the differences can be over a hundred orders of magnitude!). Therefore, I believe that it is necessary to look for new approaches to the understanding of the Universe dynamics and search a new image of the "cosmic coin".</p> <p>In the same time, I believe that the submitted article will be of interest to readers, because the idea of using a holographic model of the Universe in relation to the dynamics is discussed in the literature. The author of the paper has developed a "toy model" in accordance with the GRT ideas and estimated matter density and dark matter density with reference to the ratio of critical energy density to thermal energy density. As the PSIJ will publish review comments on the article and the article's author answers to these questions, publication of the article will initiate further useful discussion.</p> <p>However, I believe the following corrections must be done in the article.</p> <p>First of all, it is necessary to keep in mind that introduced the Planck scale Hubble parameter, H_{pl}, determined from dimensional considerations, i.e. up to a factor ~ 1 (factor specified in different models in different ways, f.e. http://arxiv.org/abs/1701.08073). This means that it is possible to discuss only the qualitative behavior of the considered time dependencies with using such normalization of time. Therefore, even strange to see such an approximate equality with the large number of digits after the decimal point: $H_{pl} \cong 1.854921 \times 10^{43} \text{ sec}^{-1}$. And such expressions are present throughout the manuscript. In the cited numerical values is no need to store a lot of digits after the decimal point, leaving only two digits after the decimal point, for example, $H_{pl} \approx 1.85 \times 10^{43} \text{ sec}^{-1}$. It relates to the whole text as well as to Eqs. (1)-(4), (10), (12)-(14), (18), (21), (24)-(27), (31).</p> <p>Secondly, Tables 1, 3 and 4 should be removed from the article. Information in this form is very difficult for perceiving the reader. Moreover, that article has a lot of illustrative material without these Tables.</p>	<p>Changes made:</p> <ol style="list-style-type: none">1. Simplified the first para of introduction.2. We removed the text connected with cosmic rotation.3. Reduced the number of decimal places with approximations.4. Removed three tables.