



SDI Review Form 1.6

Journal Name:	Physical Science International Journal
Manuscript Number:	2014_PSIJ_14201
Title of the Manuscript:	A natural solution to the dark energy problem
Type of the Article	

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	Pag 3: ... says "to be consistent is that the cosmic scale factor is also a complex number, which is given by $a = a_r + a_{ii}$." But so the FRW metric contained also and complex scale factor! That would be a metric without physical sense. Please explain how the line element can be complex if the geometry is asymptotically flat! . Such as the topology of the universe with complex scale factor? as is a line element with complex scale factor? what is your geometry? Does the homogeneity and isotropy in a model like that is guaranteed? In pag 6 says "The claim of having tachyons with imaginary value of energy density in this model is very controversial. ..Strictly speaking, both models possess similar simplicity. ... Moreover, both models can generate an acceleration of universe expansion and give good agreements with $H(z)$ data from supernovae." But you should explain and discuss meaning a complex scale factor as the FRW metric is modified in this context, also check that your model complies with the conservation equation: covariant derivative of the energy momentum tensor is zero. How are the geodesic paths if the scale factor is now complex?	Although the whole metric would be complex, the observable line element is real because the only the real part of the scale factor is observed. The scale factor involved in the line element is a_r only. The conservation equation, covariant derivative of energy momentum tensor would not be affected if the scale factor is complex. In my paper, the calculations are based on these equations. The combination of acceleration equation and Friedmann equation implies that. Since only the real part of the scale factor is observable, the geodesic path would depend on the real part of the scale factor only.



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Minor REVISION comments	In pag 5 says "In Fig. 1 and Fig. 2, we fit our model with the observational data from supernovae. We find that our model gives good agreements with both $H(z)$ data for $z \sim 2.5$ [27] and $q(z)$ data for $z \sim 0.4$ [11, 28] " [28] wrong reference, [11] Cai-Tuo not show any data, nor reported measures In figure 1 only plot 23 point, but Faroot and Ratra have 28 independent measurements between redshifts 0.07 - 2.3 ¿why? Please revised all error bars also ¿continous lines in $z=0$?	I am using the data from Table II of ref[11] (see arXiv:1404.6522) and the reconstructed supernovae data from Table III of ref [28] (see arXiv:1105.1603). There are 28 data points in the figure 1, not 23.
Optional/General comments	The summary does not explain the hypothesis that a complex scale factor and energy density is assumed imaginary, does not say that the sample data are less than three dozen objects only. It has no keywords. You have to rewrite abstract, as this seems misleading. The discussion is poor or very simple, we must explain the consequences of a geometry whose scale factor is complex. Also it must be said that there is no experimental evidence for the tachyon and its existence is only speculative. The conclusion is poor and too general for the work shown.	I have followed the suggestions to discuss these issues. Keywords will be added when the article is going to match with the standard version.