

**Review Form 3**

Journal Name:	<b>Asian Journal of Research and Reviews in Physics</b>
Manuscript Number:	<b>Ms_AJR2P_120251</b>
Title of the Manuscript:	<b>Quasars and Expansion of the Space-time</b>
Type of the Article	<b>Original Research Article</b>

**Review Form 3**

**PART 1: Review Comments**

<b>Compulsory</b> REVISION comments	<b>Reviewer's comment</b>	<b>Author's Feedback</b> (Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p><b>Please write few sentences regarding the importance this manuscript for scientific community. Why do you like (or dislike) this manuscript? Minimum 3-4 sentences may be required for this part.</b></p>	<p>This paper sheds light on quasars which generate measurable radio signals that will tell the physics at intergalactic versus galactic interior examining role of dark energy still to be verified observationally, The question about expanding universe is still puzzling, especially understanding Hubble's Law linking to General Relativity that astrophysicists have to get a better grip. The authors have brought out astronomy of larger quasars versus compact smaller counterparts with respect to their expansion properties relating to intergalactic space versus galactic interior interpreting that "universal space-time expansion causes little or no effects on the sizes of these more compact quasars". These aspects will be of importance to astrophysical worldly scientific community.</p>	
<p><b>Is the title of the article suitable? (If not please suggest an alternative title)</b></p>	<p>YES, my suggestion to the authors would be: <b>"Quasars and Expansion of Universal Space-time"</b> as an expanded title.</p>	
<p><b>Is the abstract of the article comprehensive? Do you suggest addition (or deletion) of some points in this section? Please write your suggestions here.</b></p>	<p>YES. Suggestion to the authors would be to add their conclusive statements within abstract to be like: Measurable radio-loud quasars are intergalactic which implies they are not held by gravity, but more possibly affected by creation of more spaces due to dark energy accelerating expansion of the universe. To contrast with it, Compact Steep Spectrum (CSS) quasars which are generally sub-galactic possibly get affected by denser ambient gases and gravity within CSS quasars have little or no effect on source growth.</p>	
<p><b>Are subsections and structure of the manuscript appropriate?</b></p>	<p>The authors will have to pay attention to subsections and structure. They are advised to rearrange manuscript materials entire text according to: Abstract, Introduction, Methodology, Results and Discussions having tables and the figures properly structured, then add the conclusion and reference sections.</p>	
<p><b>Please write few sentences regarding the scientific correctness of this manuscript. Why do think that this manuscript is scientifically robust and technically sound? Minimum 3-4 sentences may be required for this part.</b></p>	<p>The authors have analysed observed measured parameters, clearly rationalizing about radio signals versus optical signals with respect to characteristics of quasars. They have shown the literature evidence justifying analysis of a large number of data statistically quantified by regression plots, thereby deriving appropriate equations. Specific points that the authors will have to pay attention in correction-editing processes have been outlined more below in the: "Minor Revision comments" as well as "General comments".</p>	
<p><b>Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</b></p>	<p>YES. Suggestion to the authors would be to incorporate references addressing regarding "Hubble tension" physics that are actively researched by astrophysicists with ongoing James, Einstein, and Planck space-telescopes, which helps to make their article more robust.</p>	

**Review Form 3**

<p>Minor REVISION comments</p> <p><b>Is language/English quality of the article suitable for scholarly communications?</b></p>	<p>YES, only after the authors take care of syntax, grammar, sentence construction, punctuation, words spacing and the correct choice. The authors will have to edit the whole manuscript with respect to correct syntaxes, etc., that as sample that I will point out here. The authors are required to correct according to above items and they may use word editor to correct sentences with punctuations, grammar, etc As examples, a few samples are pointed out, green highlighting words or phrases to be corrected and then complete proper sentence constructions: <b>on p.1:</b> "Therefore since the compact sources are generally sub-galactic in dimensions (i.e. linear sizes are below 30kpc), they are affected more by their denser ambient media."; <b>on p.2:</b> "Though he regretted his action, scientists latter found the constant important in accounting for the observed universe expansion. As is understood in the now, cosmological constant....."; <b>on p.4:</b> "It is good to note that these values of luminosities are consonance with the more compact quasars"; <b>on p.5:</b> ".....we have already define R as distance between the observer and the source."</p> <p>Proper justification will be necessary to go from Eq. (12) to Eq. (13). Why are the authors saying that a 0.4 correlation coefficient to be appreciable in Eq. (4) versus similar correlation only marginal in Eq. (14)? although the authors may have better explanation based on the spread of scatter plot. Further syntax correction necessary <b>on p.6:</b> "Therefore, since the sizes" Proper justification will be necessary to go from Eq. (16) to Eq. (17). The authors will have to clarify further accurate justification of their statement <b>on p.7:</b> "In comparison with equation (13), equation (17) states that if there are effects of the observed space-time expansion on CSS quasars, they may be smaller than the effects on the larger quasars."</p> <p>Syntax correction will be necessary <b>on p.7:</b> " ....discrepancy.... environments in which they are sited, .... ambient media"; <b>on p.8:</b> " Therefore since the CSS quasars are generally.....". The authors will have to justify more <b>on p.8</b> statement, clarifying their conclusive statements: "This is shown in the relation, <math>D \sim R^{-2.3}</math> (i.e. equation (17)). This suggestively establishes that the observed universal space-time expansion causes little or no effects on size evolution of these CSS quasars; whereas it shows more profound effects on that of their more extended counterparts according to the relation, <math>D \sim R^{-1.5}</math>."</p>	
<p><b>Optional/General</b> comments</p>	<p>The authors will be advised to have a separate <u>Conclusions</u> section summary, following section on the <u>Results and Discussion</u> like in normal papers. Also, Figure 1 requires better legends per text description; presently the Figure and text are not clearly matching. Other figures need similar modifications, although they are self-explanatory.</p>	

**PART 2:**

	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)
<p><b>Are there ethical issues in this manuscript?</b></p>	<p><i>(If yes. Kindly please write down the ethical issues here in details)</i></p>	

**Reviewer Details:**

<p>Name:</p>	<p><b>Rajan Iyer</b></p>
<p>Department, University &amp; Country</p>	<p><b>United States of America</b></p>