|  |  |
| --- | --- |
|  | |
| Book Name: | [**Current Research Progress in Physical Science**](https://www.bookpi.org/bookstore/product/current-research-progress-in-physical-science-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_4453** |
| Title of the Manuscript: | **Observational Constraints on F(T , TG) Gravity with Hubble’s Parametrization** |
| Type of the Article | **Book Chapter** |

|  |  |  |
| --- | --- | --- |
| PART 1: Comments | | |
|  | Reviewer’s comment **Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | Author’s Feedback *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | 1. Statistical analysis and mathematical calculations were completed according to strict, reliable standards. The results of experimental data are illustrated in the form of graphs at a high professional level.  2. By introducing the parameters N(t) and a(t) into action, the author expands the possibilities of the inflationary model of the universe. By introducing additional parameters into the model and using a selection of values, he eliminates the discrepancy between Hubble's law and the redshift from the experiment, for example, explaining the reason for the accelerated expansion of the universe. Of course, such a “rescue” of the theory also has the right to exist, but this model cannot explain many important characteristics of the universe, in particular, the causes and patterns of anisotropy and polarization of the relic radiation (CMBR) without introducing additional hypotheses.  3. The conclusions would have been scientifically more valuable and convincing if the author had taken into account the dependence of the redshift on the distance between the source and the observer, on the speed of rotation along the orbit of the source (observer), on the diameter of the orbit, and on the angle of observation (from the zenith angle relative to the ecliptic). Then Hubble's law depends on the same natural parameters. In other words, the measurement results depend on the relative positions of the source and the observer. For example, if the observer were on Mars, the experimental data would be different, and it would be necessary to change the values ​​of the parameters of the cosmic inflation model for Mars.  4. The scale parameter introduced by the author clearly indicates that, most likely, the symmetry is curvilinear, not rectilinear, i.e., not Poincare’s symmetry. Simply put, each coordinate has its own value a, similar to the values ​​of the metric tensor (*ds2=gijdxidxj*). Then the Hubble law (as a consequence of the transverse Doppler effect) will become nonlinear. That is, Hubble's law isn't just caused by the universe radially expanding. The orbital rotation of the observer and/or source is the main cause of the redshift, "accelerated expansion of the universe," anisotropy, and polarization of cosmic rays. With this approach, there is no need to introduce exotic hypotheses (cosmic inflation, dark matter, the Big Bang, etc.) to “save” Hubble’s law.  5. The author often uses slang (most likely German) terms, such as "ansatz, vierbein." Of course, one can "close one's eyes" to this. |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | suitable |  |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | Yes, the abstract is comprehensive. |  |
| **Is the manuscript scientifically, correct? Please write here.** | Yes, the manuscript is scientifically correct. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.**  **-** | It would be better if the author added more recent references. |  |
| Is the language/English quality of the article suitable for scholarly communications? | English quality of the article is suitable for scholarly communications. |  |
| Optional/General comments | It is easier to describe the Hubble law in curvilinear coordinates in the theory of generalized biquaternions than in the Lagrangian formalism. |  |

|  |  |  |
| --- | --- | --- |
| **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)*** |
| **Are there ethical issues in this manuscript?** | ***(If yes, Kindly please write down the ethical issues here in details)*** |  |

|  |  |
| --- | --- |
| **Reviewer Details:** | |
| **Name:** | **Alimzhan Kholmuratovich Babaev** |
| **Department, University & Country** | **National University, Uzbekistan** |