



**SDI Review Form 1.6**

Journal Name:	<a href="#">Asian Research Journal of Mathematics</a>
Manuscript Number:	Ms_ARJOM_64005
Title of the Manuscript:	Accurate time calculations of falling bodies in the Earth's gravitational field and comparisons with Newton's laws of vertical motion
Type of the Article	Original Research 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/journal/10/editorial-policy>)



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**PART 1: Review Comments**

	<b>Reviewer's comment</b>	<b>Author's comment</b> (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>Compulsory</b> REVISION comments</p>	<p>1/ The uniqueness of solution should be studied, as well as the continuity</p> <p>2 / Abstract contains lot of detail, please focus on the subject studied. Please move generalities to the introduction.</p> <p>3/ Rewrite the abstract and present only the problematic and methodology used and main finding</p> <p>4/ correct here: The Earth is exposed annually to the fall of some meteorites and probably other celestial bodies. <del>This event</del> which causes a potential danger to vital areas in several countries. Consequently, the accurate calculation of the falling times of such bodies is, in general, useful to take the necessary procedures to protect these areas in view of the calculated falling time.</p> <p>5/ Move all this bloc from abstract to the introduction: Several centuries ago, the British scientist Isaac Newton developed the laws of regular motion with a constant acceleration in a straight line. Such laws are often studied in the early years of the university stage to investigate the vertical motion of objects close enough to the surface of the earth, that is, at small heights compared to the radius of the Earth. Newton also discovered his important law of general gravitation in classical mechanics, which is usually used to analyze the motion of an object in the gravitational field of another object. The latter is of course more general than the aforementioned vertical motion laws. The question that we want to answer in the present study is that; what is the difference between the falling time of an object in view of both Newton's laws of vertical motion and Newton's law of general gravitation? In the present study, we will determine the amount of error resulting from the applications of Newton's laws of vertical motion. Such an error will be expressed in terms of the height from which an object falls. The results are applied on several bodies in real life and the obtained errors are tabulated.</p> <p>6/ Improve the literature survey and show what is your contribution vis-à-vis the literature review.</p> <p>7/ Please, add graphics and illustrations to better show mathematical relations</p> <p>8/In applications do not use <math>g= 10</math>, please select two reference points on Earth one at the North Pole and the second at the equator where <math>g</math> values differ significantly.</p> <p>9/ complete here "Perhaps the reason for flying at this altitude is that such a layer of the Earth's atmosphere is more stable than other layers and air resistance is lower the required thrust is the lowest and the same for fuel consumption."</p> <p>10/ It is more reasonable to include air resistance for large falling objects in to get a better estimate for the falling time.</p> <p>11/ I suggest including the term of air resistance in the governing equation and solve this case as well.</p> <p>12/ How the authors deal with geostationary satellite without including the relive motion as it falls down.</p> <p>13/ conclusion is too long must be concise and add a perspective.</p>	



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<b>Minor</b> REVISION comments	1/ Some grammatical errors need to be corrected. 2/ Add some graphical illustrations	
<b>Optional/General</b> comments	Not provided	

**PART 2:**

	<b>Reviewer's comment</b>	<b>Author's comment</b> (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)
<b>Are there ethical issues in this manuscript?</b>	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

**Reviewer Details:**

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