© 2018 IJSRST | Volume 4 | Issue 11 | Print ISSN: 2395-6011 | Online ISSN: 2395-602X
Themed Section: Science and Technology
DOI : https://doi.org/10.32628/IJSRST18401114

Rebuttal to : 'The formulation of dynamic Newtonian advanced gravity, DNAg'

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ABSTRACT

In this short note we rebut the claims made by Andrew Worsley. The author claims that "the equations for gravity can be adapted by defining the equations for the curvature of space–time in terms of geodesics. Using these equations, we translate this curvature back into equations for an advanced Newtonian force of gravity." when, in reality he simply generates an ansatz that is falsified by existent experiments, experiments that the author is unaware of.

Keywords: DNAg, General Relativity, Perihelion Advancement, Black Holes
PACS: 03.30.+p

I. INTRODUCTION

In the introduction of their paper [1] the authors claim that:

"Now we can develop equations for the change in the force of gravitation, by taking into account the extra radius reduction. This approach again gives answers that technically agree exactly with experiment. We must translate (4) and (5) into equations for the force of gravity, as follows:."

$$F = \frac{GMm}{R^2}(1+\frac{3GM}{Rc^2})^2(1+\frac{3Gm}{Rc^2})^2 \qquad (6)$$

"where M is larger mass, *and m is the smaller mass".*

There are two very serious problems with (6). Firstly, the correction factor $(1+3GM/Rc^2)^2$ is introducing an error of the order of $6GM/Rc^2$ in the gravitational acceleration. This amounts to an error $\Delta g/g = 3.6*10^{-9}$ in measuring the gravitational acceleration on the Earth surface which is more than double the current measurements of $\Delta g/g = 1.45*10^{-9}$ [2]. So, the ansatz is falsified by existent experiments.

Secondly, the correction factor $(1+3Gm/Rc^2)^2$ introduces a dependency of gravitational acceleration on the mass of the "attracted" body, a clear contradiction of the Weak Equivalence Principle (WEP). All experiments testing WEP falsify the ansatz proposed by Worsley.

II. CONCLUSION

The authors presented an ansatz that is falsified by existent experiments.

III. REFERENCES

[1]. A. Worsley, Can. J. of Phys., 92 (11): 1485-1488 (2014)
[2]. K.S. Hardman et al. , Phys. Rev. Lett. 117, 138501 (2016)