

SPEED AS THE SOURCE OF THE GRAVITATIONAL FIELD

The present study proposes that the Newtonian gravitational constant, G is a specific constant of an object based on its speed instead of a universal constant, thus it varies according to the speed of the body, making the attractive force between 2 bodies $F = \sqrt{(G_1 \times G_2)} \times M_1 \times M_2/R^2$. It is based on Newton's theory of absolute space and suggests that the gravitational force is not created by the masses, but instead from the kinetic energy in them. This would solve the low accuracy problem encountered when measuring G , and significantly change the calculation of the gravity forces emerging from bodies moving at much different speeds than the earth. Additionally, a body without movement would not be affected by gravity, thus creating a parallelism with the electromagnetic force, since movement of an electric charge creates a magnetic field and movement of a mass generates a gravitational field. It could also benefit many fields of physics and metrology, such as the understanding of the Casimir effect, improving the spring constants that are used to calibrate atomic force microscopy cantilevers, and understanding intermolecular forces in DNA. To validate this hypothesis, it is proposed that the Gravity constant (G) is measured in the International Space Station, which travelling at 7.66km/s compared to the earth surface should result $G=6.844 \times 10^{-11} \text{ m}^3 \cdot \text{kg}^{-1} \cdot \text{s}^{-2}$ being 2,55% higher than the current measurements in earth.

keywords: G , source of Gravity, Absolute space

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