

Force Doubling Paradox of Gravitational Attraction

Radiation Pressure versus General Relativity

Abstract

This paper presents a comparison of three gravitational models:

- Radiation Pressure
- General Relativity Attraction
- Mass Attraction

The argument is presented that the radiation pressure model of gravity is the only model that produces the correct values for the forces acting upon orbiting bodies. All competing attraction models produce values that are double the force which is required to maintain orbit. This force doubling paradox as detailed in this paper indicates that the Mass Attraction and General Relativity Attraction concepts are not viable models for the cause of gravity.

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Reviewing the Models of Gravitation

Our current dictionaries and university physics books [1] define and refer to gravity as; an “attractive” force “inherent” to the mass or warped space of a body. Applying any attractive force model to the Earth Moon dynamic forces we obtain this system:

- The Earth’s attractive gravitation balances the orbital centrifugal force of the Moon.
- The Moon’s attractive gravitation balances the orbital centrifugal force of the Earth.

At first this may seem like an orderly and balanced attractive force system; however the following paradox exists.

If the seat, source and cause of the "apparent" attraction forces are "internal" to each of the bodies...the attraction concept produces twice the force that is necessary to balance the centrifugal orbital forces of a planet moon system. The concept of "attraction" between bodies requires that the force “from” each separate body acts equally on the remote body-- and the originating body. Another example of a balanced system is a rope under tension; each end has an equal amount of oppositely directed force.

This double force paradox is directly applicable to the "mass attraction" the General Relativity “attraction” and all other attraction type concepts of gravity.

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The Mass Attraction Models of Gravitation

The attraction concepts [2] accept Newton's inverse square equation of gravity's force between two bodies as:

$$F = G \times (M1 \times M2) / r \text{ squared} .$$

The surface gravity (g) for each of the bodies can be derived from the gravitational constant (G) and the mass and radius of the bodies. Using Newton's equation the g forces seated in each of the "two" bodies acting on the other at a distance can be calculated.

Within the attraction concepts:

- From Earth, the concept requires that Earth's gravity is attracting the Moon;
and this same and equal Earth anchored "attraction" force is pulling the Earth toward the Moon.
- From the Moon, the Moon's gravity is attracting the Earth;
and this Moon seated force is equally pulling the Moon toward the Earth.

Using Newton's equation as given above, basic arithmetic and common logic show that the assumed Earth and Moon seated forces are equal and as a result;...all attraction models produce twice the force that is required to balance the centrifugal forces of orbit!

The General Relativity Model of Gravitation

The exact same paradox arises with the General Relativity (GR) concept of gravity. It postulates that Mass warps a hypothetical "fabric of spacetime" and the warped fabric of spacetime causes "attraction" of other masses. Since in the GR theory the seat of the attractive force is anchored within the center of the planet's and moon's positions, we would again have twice the force required to balance the orbital forces of the Earth Moon system.

Newton's References to the Cause of Gravity

This paradox only arises within "attraction" type models and it also raises the following question:

If this paradox is true and important, why was it not addressed by Newton, the author of our gravitational math?

This quote from a letter by Sir Isaac Newton expresses his firm opinion opposing the concept that gravity (attraction) acted through empty space as an "inherent" property of matter should answer the above question.

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Quote "...that one body may act upon another at a distance through a vacuum without the mediation of anything else, by and through which their action and force may be conveyed from one to another, is to me so great an absurdity that I believe no man, who has in philosophic matters a competent faculty of thinking, could ever fall into it." **Unquote**

Since Newton considered the attraction concept a great absurdity; it seems reasonable to assume that he would not have spent time contemplating the detailed mechanics of an absurd attractive system. Therefore he may not have encountered or addressed the double force paradox. People do not normally study theories that they believe are not correct, or that they do not have an interest in.

It also appears certain that Newton would never have believed that for one hundred plus years our Twenty and Twenty First Century Natural Philosophy Societies, and learned authors would fall into believing and propagating the concept "that one body may act upon another at a distance through a vacuum without the mediation of anything else".

Sir Isaac Newton's laws of motion, circa 1600's, gave the description of how the force of gravity varied with distance, following the inverse distance squared equation, but he did not propose a cause for gravity or inertia in any of his publications. Although, the following quote, from a private letter to Robert Boyle, shows Newton did conceive of a cause for gravity that is essentially the duplicate of this radiation and shadowing model of remote forces. If Newton's term "ethereal spirit" is replaced with the term "prime radiation" in the following quote, the similarity of the concepts becomes obvious.

Quote: "so may the gravitating (apparent) attraction of the Earth be caused by the continual condensation of some other suchlike ethereal spirit (prime radiation),. . . in such a way . . . as to cause it (this spirit) (prime radiation) from above to descend with great celerity (speed) for (from) a supply; in which descent it may bear down with it the bodies it pervades, with force proportional to the superficies (surfaces) of all their parts (atoms) it acts upon." **Unquote**

The terms in brackets have been added to the original to aid in the comparison. It is satisfying and important to note that Newton's concept, as stated above, **does not** propose an Aether consisting of the vibration or flow particulate material, nor does it propose attraction through a distance as a cause. In this author's opinion the above quote shows that Isaac Newton did frame a non-particulate radiation and shadowing system as a cause for gravity, circa late 1600's.

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The Radiation Pressure Model of Gravitation

In an isotropic radiation pressure system of gravity [\[3\]](#), the seat of the force is not in the mass of the objects. Each atom of the object shadows the radiation flow, causing an "external" unbalanced radiation pressure force "pushing" the objects toward each other. There is "no attracting" tension involved, which would require the doubling of the calculated force. The gravitational radiation pressure is an attribute of the Universe's prime isotropic radiation,...in the same manner that Inertia, E fields, EM radiation and all remote forces are mediated by prime radiation. In a radiation pressure model, planets and objects do not "have" gravity; they are "subjected" to gravity by screening a portion of the prime radiation flow of the Universe. Gravitational Attraction does not exist.

In Summary

If the Earth is "attracting" the Moon and the Moon is "attracting" the Earth, this would produce twice the actual force that is required to maintain the bodies in orbit.

This double force result demonstrates that the seat of force does not reside in the planets.

The seat and cause of the forces is "external" to the planets,... as predicted by a radiation pressure model of remote force. With the disqualification of the two attractive force models, the isotropic radiation and shielding model is the only known one remaining which correctly predicts the actions and forces of gravitation. A detailed study of the radiation and shielding model is available on the web, [\[3\]](#) and titled Radiant Pressure Model of Remote Forces

The logic of this article does not imply that there is anything wrong with Newton's gravitational equation;...the double force error only arises when it is "assumed" that the cause and seat of the force is attractive and therefore originates within the planets or bodies.

This paradox does not arise within a radiation and shadowing system, since the seat and/or source of the force is external and applied locally to the planets and moons,...and attraction or tension through a distance are not required and cannot exist within a radiation pressure and shielding system of remote and local forces.

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Radiation Pressure Reference Papers: The following list of papers and articles present additional support for the disqualification of the mass attraction and General Relativity attraction concepts.

- Light Speed versus Special Relativity, 2005
URL: http://home.netcom.com/~sbyers11/litespd_vs_sr.htm .
This paper contends that light speed is not constant in relation to all observers. If true, this fact disqualifies Special and General Relativity as viable theories of electromagnetic radiation and physical forces.
- A second example of the light speed question has been available on the web site of B. G. Wallace using 1969 radar data to establish that light speed is not constant for all observers. The information is available at:
URL: <http://www.ekkehard-friebe.de/wallace.htm>
- Gravity Anomalies, Rev. 2010
URL: <http://home.netcom.com/~sbyers11/grav11d.htm> .
Anomalies of Earth gravity shown on the recent European Space Agency gravity map are presented that are only predicted by a radiation and shielding model of gravity.
- The unmodified version of the gravity map above, may still be available at:
http://blogs.nature.com/news/thegreatbeyond/2010/06/goce_depicts_gravity_in_high_r.html
- Pushing Gravity 2002 M. R. Edwards Editor.
A valuable collection of papers reviewing theories of gravitation.

Reference:

1. Understanding Relativity, Leo Sartori, University of California Press
Copyright 1996 by The Regents of the University of California
Ref. pg. 2
2. University Physics, Sears, Zemansky, and Young
Copyright 1987, 7th Edition, pg 125
Ref. pg. 3
3. Radiant Pressure Model of Remote Forces, Byers, 1975
URL: <http://home.netcom.com/~sbyers11/>
Ref. pg. 5

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