

Gravitational Constant “g”: Is it really a constant?

A new C-R theory challenge for 2006.

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Many C-R theory readers will be familiar with the old Newtonian theory gravity formula

$$\frac{g M_1 M_2}{r^2}$$

What they may never have considered is, using this formula as a guide, g cannot be the “true” value we encounter, and is therefore, not likely to be a constant¹. I will suggest another alternative later on in this write-up.

What the average reader, much less the average geological professional doesn’t know, or even encounter on a regular basis, is that the gravitational strength INCREASES as one goes towards the center of the earth, until one descends to 2886 km below the surface. Once at this peak level, the gravitational value then starts to decrease to zero at the exact center.

As some may have guessed, the reason is that the density of matter closer to the core of the earth more than quadruples with depth as compared to the density near the surface. What is much less obvious, and as far as I know, unappreciated by any other theory, is that this means that the above Newtonian formula is not “actually” correct for “an exact same mass at earth’s location, except with a difference of a uniform distribution of average density”.

I would suggest this thought experiment, to illustrate: Use the cheapest of either of these two methods to re-distribute the mass of the earth so as to average out the density, and make mass distribution uniform throughout the planet. Either, cut up the entire volume of the earth into 1-cubic-meter chunks, then pair together (to average the lightest and heaviest chunks together) the densities into 2-cubic-meter chunks with all averaging the same density, then re-stack earth’s mass. Otherwise, as an alternative, run the entire volume of the earth through a planet-sized “sausage-grinder”, being sure to average the density uniformly. Then, re-stack the contents, now with the density averaged-out, from the center of the planet.

When finished, one would immediately notice that the weight of an object on the surface of the rearranged planet would now be significantly higher even with exactly the same mass as before. Additionally, by the C-R theory, one could no longer just dig a hole (like a well) and jump down in. The maximum curvature, or gravitational attraction, would now be only at the surface of our planet. It would now take almost as much extra energy on this re-arranged planet to climb down 30 meters below the surface, as it would take now on earth to climb up 30 meters above the surface.

The author suspects that both environmental groups, and limited government budgets would prevent the above thought experiment from becoming reality, at least here on earth. Someday in the far distant future, another suitable, earth-like planet may be found, chosen to perform the experiment upon. (It is even conceivable that a planet, approximately earth-sized and earth-massed, could be found that already has it’s density distribution averaged-out, without needing an extensive and expensive re-mix.)

¹There are much more complicated gravitational formulas available, which are, technically, more correct, but they are not as clearly or reasonably understandable to the average reader. Additionally, this simpler formula is close enough for use on the surface of the earth to illustrate the necessary point.

The surprise is, with the same Newtonian formula, the present value of “g” would not suggest this increase in weight, therefore the “real” value of “g” must actually be WRONG!!! Interestingly enough, no attempt to precisely measure the value of “g” here on earth has been successful beyond two digit accuracy, and even there, there is some uncertainty.

New for 2006, the C-R theory also proposes that the value of “g” is not only wrong, even at our planet earth, but also “g” is not a constant elsewhere in the universe. The value will be greatest at the center of the universe (by the C-R theory), a.k.a. the “Great Attractor”, and will decrease to a lesser value, until reaching ZERO at the outer Schwarzschild radius. Note: this would also explain why the value of “g” cannot be “precisely” measured (as a constant) here on earth.

A simple idea would be, “g” represents the amount of slowdown of time curvature causes matter to experience. This value will change depending upon one’s location. An important point: Once 100% time-slowdown has occurred, as occurs in the Neutral Zone^{C-R}, gravity loses all remaining influence. This re-emphasizes why gravity cannot collapse matter into a singularity.

The author notes, he only thought of the above (gravitational constant) anomaly-scenario in this March of 2006. That shows that “Newtonian thinking” still “biases” even my “C-R theory-aware” thoughts. There may still be more areas that I have yet to discover, where I will need to revise my thinking.. I simply believe that I presently understand (and accept) the implications from the C-R theory better now than I did in 1979. I am still regularly uncovering “new” applications which did not occur to me earlier.

The C-R theory could answer the question, “Are there still major areas of science where the AMATEUR (cosmologist) can make a contribution? There is a distinct possibility that some observant C-R theory reader might well recognize an area of science, implied by the C-R theory ideas, which has not yet occurred to me. I seem to find at least one new idea per year which should have been obvious long ago, but nonetheless, only pops into my mind upon continuing reflection, then the “AHA” moment.

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