Theory of everything - The geometric mean as an alternative to Newton's law of gravitation

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Abstract

Newton's law of gravitation $F=Gm_1m_2/r^2$ for the radii r and velocities v of one orbit gives very precise results. But they give no indication of the diameter of celestial bodies. For a law similar to the Titus-Bode series, Newton's approach is not good enough. It stands to reason that a standardization to a TOE has to be the simplest of the simple, without constants, explained purely by mathematics and everything.

Since Newton, physics has been structured as follows:

since Newton:	3 dimensions	3 families	3 constants c, G, h	Mass m	$F=m_1m_2/r^a$
TOE:	one dimension	a kind of particle	no	Particle number N	$N_1r_1=N_2r_2$

The torque is so simple that it has to apply. $N_1/r_1=N_2/r_2=N_B/r_B$ for two objects 1 and 2 and an observer B. This law of leverage can also be applied to time $N_1t_1=N_2t_2=N_Bt_B$, or $N_B/w_B=N_1/w_1=N_2/w_2$ They apply inside and outside of the body, i.e. also for the orbit. N, r, w are vectors. On the surface of body is $N\,r_{surface}/orbital\,time=N\,r_{surface}w/2\text{pi}=k$. K is determined below. **One revolution** $w=2\text{pi}$ **corresponds to the circumference of this object with radius r** and thus $N\,r\,w/(2\text{pi})$. It already follows from this that the radius of an object increases with the speed of rotation and the angular momentum, and consequently the energy. 3 dimensions are owed to our view. Thus, for the 4 dimensions d, that is w,x,y,z, the 3 objects $O_i\,observer,Objekt\,1,2$ can be summarized as R (i, d). Each of the 3 objects i has independent N (i, d) particles for the 4 dimensions d.

For all objects i = 0 to 2 and the dimensions d = 0 to 3 w,x,y,z we get:

The law of gravitation can thus be summarized in a formula:

$N((i+1)\,3,d)/R(((i+1)\,3),d)=N(i,d)/R(i,d)$ d = {w, x, y, z} i = {observer, object 1, object 2} (i = 3 i% 3 = 0)

The 4 dimensions can be calculated independently. The 4 lines can be inserted into a program.
The first, simplest law for an immobile observer on earth and light results from this:

$N_{B,w}/R_{B,w}=N_{erth,w}/R_{erth,w}$ d = 0 for the time
$N_{B,x}/R_{B,x}=N_{erth,x}/R_{erth,x}$ d = 1 for x
$N_{B,y}/R_{B,y}=N_{erth,y}/R_{erth,y}$ d = 2 for y
$N_{B,z}/R_{B,z}=N_{erth,z}/R_{erth,z}$ d = 2 for y

A photon cannot be represented as a single particle in the TOE, simply because the photon has a wave property with a beginning and an end in the direction of time. A photon has exactly the properties of an electron, paired with an anti-electron. All bosons are composed of even numbers of particles. The particle number of the anti-electron can also be expressed simply as N = -1.

Photon

$spin\,1=spin\,½+spin\,½$ $E_{ges}=E_{Elektron}+E_{Antielektron}$ $N_{Elektron}=-N_{Antielektron}=1$ $E_{Elektron}>0$ $E_{Antielektron}<0$. The properties are transferred to the number of particles $N_{Photon}=2^2N_{Elektron}$. This applies to all entangled objects.

As an example, light is emitted in the y-direction.

$N_{B,w}/R_{B,w}=N_{Photon}/R_{Photon,w}$ time
$N_{B,x}/R_{B,x}=N_{Elektron}e^{(i\varphi)}/R_{Photon,x}$ transverse polarization x
$N_{B,y}/R_{B,y}=N_{Photon}/R_{Photon,y}=spin\,1$ longitudinal expansion
$N_{B,z}/R_{B,z}=-N_{Elektron}e^{(i\varphi)}/R_{Photon,z}$ transverse polarization z

If you add the period of revolution for the observer and the earth $w=1/(2\text{pi}\,day)$ and add the equatorial earth radius R_{xy} to the polar earth radius R_z , the result is:

$$N_{B,w}/R_{B,w}=N_{erth,w}\,2\text{pi}\,day$$
$$N_{B,x}/R_{B,x}=N_{erth,x}/R_{xy}$$
$$N_{B,y}/R_{B,y}=N_{erth,y}/R_{xy}$$
$$N_{B,z}/R_{B,z}=N_{erth,z}/R_{z}$$

For each spatial dimension there is a corresponding cycle time that is conveyed by the observer. For the dimensions d = x and d = z these are:

$$N_{erth,x}/R_{xy}=-N_{Elektron}e^{(i\varphi)}/R_{Photon,x}=N_{Elektron}e^{(-i\varphi)}/R_{Photon,x}$$
$$N_{erth,z}/R_{z}=N_{Elektron}e^{(i\varphi)}/R_{Photon,z}$$ | Multiply vector products
$$R_{Photon,x}\cdot R_{Photon,z}=R^2_{Photon,x}+R^2_{Photon,z}$$. That corresponds to the polarization

Along with:

$$N_{erth,y}/R_{xy}=N_{Photon}/R_{Photon,y}=1$$
$$R_{Photon,x}\cdot R_{Photon,y}\cdot R_{Photon,z}=R^2_{Photon,x}+R^2_{Photon,y}+1^{2.}$$ spin = 1

or with a standing wave $R^2_{Photon,x}+R^2_{Photon,y}+n^2\lambda^2$.

The number of particles $N_{erth,d}$ is ultimately not known. But you can without restrictions $N_{erth,x}=N_{erth,y}=N_{erth,z}$. The shape of a celestial body is thus transferred to R_r , R_{xy} and deviation R_z . For every body the number N per dimension is proportional to r. The mass depends on the energy and thus w or t and the volume.

$$N^{(3/2)}/(R_r^2+R_{xy}^2+R_z^2)=E=N_{Photon}/(R^2_{Photon,1}+R^2_{Photon,3}+\lambda^2)$$

For 2 entangled electrons in the photon is $N_{Photon}=2^2N_{Elektron}$. For non-entangled electrons it is simply the number = 2. That is, the energies of non-entangled objects are simply added.

This leaves 2 equations at the moment:

$$N_{B,w}R_{B,w}=N_{Photon}/R_{Photon,w}$$ und $$N_{B,w}R_{B,w}=N_{erth}/2\text{pi}\,day$$
$$N_{erth}\,2\text{pi}\,day=N_{Photon}/w$$

What's in this equation N_{erth} and N_{Photon} ?
For this one can rely on the equations for the electron and the anti-electron. In the direction of time, N = 1 and N = -1 cancel each other out. There are only 2 dimensions left that describe the polarization. Only in the case of a standing wave does the energy also depend on the third spatial dimension. In the example above, the polarization plane is $N_{erth,x}N_{erth,z}=4N_{Elektron.}$ for a photon without a safe limit from the beginning and the end. The length of the wave train is reduced with the corresponding part of $R_{xy}/(n\lambda)$

$$N_{erth,x}/R_x=N_{erth,z}/R_z=N_{Photon}e^{(-i\varphi)}/R_{Photon,z}=N_{Photon}e^{(i\varphi)}/R_{Photon,z}$$

And that results in total

$$1/R_{xy}/R_z\,2\text{pi}\,day=e^{(-i\varphi)}/R_{Photon,x}e^{(i\varphi)}/R_{Photon,z}1/w/\lambda \qquad 1/R^2\,2\text{pi}\,day=4/c\,1\,wave$$

$$4/(2\text{pi})/c\,6378{,}626^2\,km^2=1\,day$$

The equatorial radius is **6,378,137 m** (GSM 80) with a difference of 489 m. The calculation is correct because the wave of the photon matches the rotation of the earth. **Measuring lengths is a very demanding task. As soon as a ruler is turned down, it is subject to the Coriolis force.**
From the assumption that a photon is an entangled pair of an electron and an anti-electron, c can be explained simply by geometry, without constants, only with the number of particles. And that can also be explained briefly. c simply does not have the unit m / s but m ^ 2 / s. The speed of light can only ever be determined relative to an object with a circumference of 2pi r and that is $c\,2\text{pi}\,r=Speed\ \ of\ Light$

As a result of the formula $N\,r\,w/(2\text{pi})$, a polynomial with the base 2pi is assigned to each elementary

Elementary particles

Photon is an entangled particle of electron and antielectron with rest mass = 0.

$$E_{Photon} = (2\text{pi} - 1)(2\text{pi} + 1) = 2\text{pi}^2 - 1$$ the -1 corresponds to the spin = 1

The masses of the elementary particles are calculated from polynomials with the base 2pi and an interaction with fractions of pi^n. E.g.

$$m_{muon} = (2\text{pi})^3 - (2\text{pi})^2 - 2E_W^2 = (2\text{pi})^3 - (2\text{pi})^2 - 2 - 2/pi^2 = 206.77\, m_e$$

Theory muon mass: 206.77 m_e measured 206.7682830 (46) m_e

The more particles are entangled together, the more complex the polynomial becomes due to interaction terms.

Mass of the proton m_p =

$$(2\text{pi})^4 + (2\text{pi})^3 + (2\text{pi})^2 - (2\text{pi})^1 - 2 - 1 - 2/pi - 2/pi^6(1 - 2/pi^2 - 2/pi^4 - 2/pi^6(1 + 1/pi^2(2\text{pi} - 1/4)))$$

Theorie: 1836.15267343 m_e measured 1836,15267343(11) m_e

Orbites and diameters of planets in the solar system can be calculated in the same way. E.g.

Mercury orbit / sun ratio

$$696342/((2\text{pi})^3 + (2\text{pi})^2 + (2\text{pi}))(1 + 1/(2\text{pi})^2 + 1/(2\text{pi})^3)(1 + 1/(2\text{pi})^6 + 1/(2\text{pi})^7) = 2439.66$$

Sun orbit Mercury

Measured: Sun 696342km Mercury 2439.7km

Further calculations are on my homepage www.toe-photon.de

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