# Simulation of the planetary system based on a theory of everything 

Helmut Schmidt


#### Abstract

Newton's law of gravitation gives very accurate results for the radii $r$ and velocities $v$ of an orbit. However, they do not give any indication of the diameter of celestial bodies. In this respect, it is fundamental to reconsider the formula for distance laws $F \propto e_{1} e_{2} / r^{a}$. This also means putting all the fundamental physical principles to the test, such as the theory of action at a distance, the inertial system, isotropic space, the importance of constants and dimensions in the universe, the difference between matter and antimatter. Basically, a distinction must be made between how nature works and what we, on the other hand, recognize and interpret as nature in a 3-dimensional space. This leads to a TOE with a distance law purely by mathematics, with no constants.

Our idea of nature is conditioned by evolution: A 3-dimensional space. Naturally, before Einstein, physicists assumed universal time. Since the theory of relativity, however, this has been understood as a 4-dimensional space-time. This is ultimately a consequence of Newton's theory of gravitation. Since Newton, every object is associated with a mass in kg and a center of gravity. Almost all of mathematical physics is built on this notion, with calculations based on gravity. The gravitational constant has the units $m^{3} / \mathrm{kg} / \mathrm{s}^{2}$. This alone shows that the gravitation only leads to the finally observable measurements in mover several steps.


## Criticism of the theory of gravity:

What is a mass and its center of gravity? An object's centroid is an idealized idea of its center as a point. According to quantum theory, however, the center of gravity cannot be precisely located. The center of gravity of an object can at most be a quantum. What is the mass of a celestial body even though all the particles inside it are ultimately weightless? The theory of gravitation is definitely wrong, as entangled quantum phenomena show.

## Criticism of the long-distance theory:

The formulation of the quantum theory with the constant c contradicts itself. The interactions of particles is symmetrical. A theory of action at a distance is theoretically conceivable, but unsuitable for physical calculations and only possible over infinite series. is that a photon? The idea that a photon is a single particle is not tenable. There is no reason why a photon could be made up of an electron and its antiparticle. A photon as a single particle cannot be represented in the TOE solely by the wave property with a beginning and end in the direction of time. A photon has exactly the properties of an electron paired with an antielectron. All bosons in the TOE are composed of even numbers of particles.Kritik an der

Altogether this means: An efficient physical calculation is only possible with the assumption of a universal time. Inertial systems are characterized by the fact that all objects in a system have a common center of gravity. This in turn means that classical physics is the basis for all phenomena. The speed of light is only relevant for the observer. Each interaction between 2 objects, on the other hand, always requires double the time. Every look in a mirror shows this.

In the TOE there is a single type of particle, which differs from all other particles by a different location. This means that this elementary particle cannot be divided, neither can it collide directly with another particle. The electron is a suitable name for this particle. That is, a photon is made up of an electron and antielectron.

Since Newton, physical laws have been formulated with constants $c, h, G$ with the units $\mathrm{sec}, \mathrm{m}$ and kg . The first consideration is what raw data is nature giving us? Time, multiple spatial dimensions, or an energy? Time with a dimension is essential. Physics without natural numbers is also essential, as are ratios with rational numbers and algebraic numbers built from them. This allows all conceivable models for the universe to be simulated. A theory of whatever kind for the universe can only be verified on the computer through
simulations and thus digitally. It is therefore not expedient to assume pi in a physical theory for the laws of nature. Integers are also the basis of atomic theory and quantum theory. The simplest model for computations in physics is a single dimension (time), a single type of particle with a universal speed, and a single law of nature. The endlessness of the universe is beyond any possible knowledge and leads to a fractal universe. The TOE assumes that nature provides a single parameter of raw data and, as the most compact piece of information, is energy.

For calculations in physics, all the particles in a system must be assigned a single number. This is part of the universe. The natural numbers result in cohesion and thus replace gravity. The system has no vacuum. It's a whole. Every natural number has a particle. The structure of the system is given by dual, alternating states, matching a series of $1,1,-1,1,-1,-1$. This results in an integer, binary number. The series of particles, regardless of whether it is an atom or the solar system, begins with a center and can reach as far as our horizon of knowledge. The maximum number of this system is the total energy. An object is a divider of this system. At least 2 objects and an observer are required for a system. The torque
$N_{1} / r_{1}=N_{2} / r_{2}=N_{B} / r_{B}$ is so simple that it must apply, namely for two objects and an observer. With the assumption of a universal time, all possible states can be represented by radii from the center define. The time results solely from coincidences of the same states of three objects. For example, on Earth, a month is a part of a year. The time in this system results from the smallest possible and observable time unit and thus the alternating states of $1,-1$ and back to 1 . The law of the lever can also be applied to time:
$N_{B} / w_{B}=N_{1} / w_{1}=N_{2} / w_{2}$ Every object has the same information in the radii $\mathbf{r}$ as in the
frequencies $\mathbf{w}$, if $\mathbf{w}$ is a complex number. Both lead to the same result. That is, potential energy is equal to kinetic energy.

What is being measured when a measuring device shows a distance? A distance is always relative to another distance. There is not a single straight line in the universe. Measuring lengths is a very demanding task. As soon as a ruler is knocked over, it is subject to the Coriolis force. The Lorentz contraction is a consequence, not a cause. A transformation of time is unnecessary and so is the mass correction. Mass is the energy of its surface and is therefore proportional to $R^{2}$. According to Gauss's integral theorem, it is immaterial which properties the object has inside. Everything within an orbit is matter. Antimatter is anything outside of an orbit. The limit is the photon. The twin paradox thus takes care of itself.

The TOE assumes a one-dimensional arrangement of particles. The orbit of one particle is the center of the next particle. The time is measured as a digital display $t$. Any distance between two particles in a system corresponds to the minimum circumference $r=2 p i t$. All calculated distances $r$ are thus a $2 p i-f o l d$ and this carries over to the energy. Nature works with binary numbers. For an observer, the base is 2 pi .

The raw data from nature is encrypted for observers. All possible energies $E$ and radii of an object can be represented as a polynomial with base 2pi. Starting from the center, large radius $r$, small radius, hereinafter referred to as $\mathbf{x y}$, and deviation $z$ follow. This results in a clear order according to the sizes $\mathbf{r}>\mathbf{x y}>\mathbf{z}$. This is already cheaper than 3 isotropic dimensions $x, y, z$. This makes Heisenberg's inequality obsolete. The 3 spatial dimensions are combined into a single dimension as a polynomial: $\quad r=r_{1}+2 \mathrm{pi} x y_{1}+4 \mathrm{pi}^{2} z_{1}$ Polynomials can be treated mathematically like orthograde vectors. Schrödinger's wave theory is based on

$$
\Psi=A e^{(-i / \hbar(E t+r d r / d t))}=A e^{(-i(w t+r / \lambda))} \text {. By the mathematical transformation with }
$$

$e^{(r \ln (2 \mathrm{pi}))}:=2 \mathrm{pi}^{r}$ and the assumed digital time with the only values of 1 and -1 can be converted into
$r_{\text {Orbit }}=A(2 \mathrm{pi})^{(-i w t)}(2 \mathrm{pi})^{(r / \lambda)}= \pm A w(2 \mathrm{pi})^{(r(0)+n / L \lambda)}$
Apoapsis $=R_{\text {center }}(2 \mathrm{pi})^{(n+l+1)} \quad$ periapsis $=R_{\text {center }}(2 \mathrm{pi})^{(n+l-1)}$

## l.e. the TOE contains the quantum theory.

The calculations for the solar system must include the area of the sun as a starting point. The energy of the sun can be arbitrarily defined in units of 2 pi. The exponent depends on the required resolution. For the planetary system, $\quad E=R_{\text {Sun }}^{2}(2 \mathrm{pi})^{3} \quad$ is sufficient for a system with integer quantum numbers. The radius of
the smallest possible object is $1+2 \mathrm{pi}+(2 \mathrm{pi})^{2}$. Beginning at the surface of the sun, the quantum properties of the solar system come into play. The quantum number $n$ starts with 0 and corresponds to its surface. The formula for the radii of objects is the same for all systems in the universe. It's just our perception of how we see objects.

In nature, the orbital periods correspond to a binary number.

$$
r_{\text {Orbit }}=r_{\text {center }}^{n} / r_{\text {satellite }}^{l}
$$

For an observer, a digital time applies and radii correspond to the polynomials with base 2pi:

$$
\begin{aligned}
& r_{\text {Orbit }}=\left(E_{\text {center }}+E_{\text {satellite }}\right) /\left(1+2 \mathrm{pi}+(2 \mathrm{pi})^{2}\right) \\
& r_{\text {Orbit }}=\left((2 \mathrm{pi})^{2} 3^{n} 2^{l}+(2 \mathrm{pi})^{2} 2^{m} 2^{s}\right) /\left(1+2 \mathrm{pi}+(2 \mathrm{pi})^{2}\right) \quad \mathrm{n} \text { and } \mathrm{I} \text { apply to object } 1 \text { and } \mathrm{m} \text { and } \mathrm{s} \text { to object } 2
\end{aligned}
$$

As in classical mechanics, measurements arise from ratios and require a balance of the 3 objects with a common center of gravity and defines the inertial frame. All states in a closed system are occupied by all particles. These are minimum energy ground states, a common unchanging centroid. The length of the entire entire polynomial of a system with $N$ particles has the energy

$$
E=\sum_{1}^{N} 1+2 \mathrm{pi}+(2 \mathrm{pi})^{2}+\ldots+(2 \mathrm{pi})^{n}=1 / 2(2 \mathrm{pi})^{(n+1)}
$$

means this polynomials with a constant ratio between neighboring particles $2 \mathrm{pi}=(2 \mathrm{pi})^{n} /(2 \mathrm{pi})^{(n-1)}$ An imbalance between 2 objects corresponds to a polynomial with two coefficients $=0$ and are defects with a band gap. This causes an instability with a decay of one of the two objects and a simultaneous increase in size of the other partner in the system. The probability of the coefficients equalizing depends on the length of the band gap. This results in radioactive decay with an exponential decrease over time. For observers in the solar system, the instability is vital. For every system there is an inside and an outside. It's just a matter of perspective whether it's matter or antimatter. This is a sequence of the ordered 3 spatial coordinates ( $r, x y$, $z$ ), starting from the center over the observer to the depths of the universe. Photons consist of an electron and an anti-electron. For the photon itself, these are two directly neighboring particles. They cannot be separated and observed, except for emission or absorption, or with a 3rd object for pairing. The pair formation shows the consequence of the decay and leads to an electron in the direction of the center and an anti-electron in the opposite direction. Each of us is a center with our consciousness. Consciousness arises from matter and antimatter in equal measure. We are in time. Just like a photon with it the electromagnetic force. With our consciousness we are the most complex object in the geometric mean between an elementary particle and the entire universe.

The program for the simulation is the most efficient way for correct physical calculations. The center is a single line of code. Everything else in this code is only necessary for our viewing of the world. 4 loops for 4 parameters $\mathrm{n}, \mathrm{I}, \mathrm{m}$ and s . s distinguishes only matter and antimatter. $\mathrm{n}, \mathrm{I}$ and m are sequences of the 3 parameters $r, x y, z$. Each run requires a unit of time. The first result they lead to is the radii of apoapsis and periapsis. These are the limit values of two different quantum combinations ( $\mathrm{n}, \mathrm{l}, \mathrm{m}, \mathrm{s}$ ). This is natural. Pi results only as a limit value from the number of particles in an object. For a graph it is a good idea to use Kelper's Laws, with 2 orthograde circles for apoapsis and periapsis, so an ellipse with frequencies, sine and cosine. The advantage of the solar system over the atom is that you can observe the orbits directly. With atoms you only get the differences in energies and the effects of a photon. The quantum of action h is a consequence of the Coriolis force [1]. The speed of light is only relevant when looking at nature. c results from the radius and the rotation time of an object, such as on the surface of the earth. All observers in the universe have the same opinion about a photon. It is a single triple system of the observer and the electron and the anti-electron. All objects have different energies, different radii and different orbits. The objects are half inside other larger objects and half outside. For the solar system, this means that the natural order is based on the radii of the objects. With with a ratio $8: 2 \mathrm{pi}=4: \mathrm{pi}$. For the 3 -fold polynomials of the radii, 4 is
the length of the polynomial $+1=4$. The 8 is therefore the divider in the periodic table. The system earth plus moon has the smallest possible ratio 4 / pi relative to the center of gravity: $r_{\text {moon }}+r_{\text {earth }}=4 /$ pi $r_{\text {earth }}$.

$$
r_{\text {moon }}=r_{\text {earth }}(4 / p i-1) \quad \text { Moon Radius }=6356.75 \mathrm{~km}(4 / \mathrm{pi}-1)=1736.9 \mathrm{~km}
$$

The most accurate ratio fits the pole diameters of 12713.50 km and 3472.0 km :
$4 / p i 12713,50 /(12713,50+3472,0)=1.00011$

All other relationships in the solar system can be built up according to this scheme. The rotation times of the orbits result from Kepler's laws. The rotation times of objects are differences in the rotation times. The relationship is explained by this unique relationship between the sun, earth and the first moon in the planetary system 1 day: 1 month $:$ year $=1 /(8 p i)+2: 1: 8 p i=27.13: 1: 25.13$.
The measured ratio is $27.322: 1: 25.38$

The moon is the time standard for the sun and the earth. The error can be further improved if times are normalized to the rotation time of the sun. It's natural that during a solar eclipse, the moon fits pretty neatly into the sun. However, only the total energy $E=m c^{2}$ inside a body is important for the radius and distance (Gauss integral theorem). According to the TOE, the distances between all celestial bodies are a consequence of the general expansion of the universe. $H 0=2.1910^{-18} / \mathrm{s}$.
$d / d t$ distance $($ Moon $)=38,2 \mathrm{~mm} / 384400 \mathrm{~km} / 1$ year $=3.1510^{-18} / \mathrm{s}$

$$
(1-1 / p i) 3.1510^{-18} / s \approx H 0
$$

The calculation of the masses of the elementary particles always requires 2 objects for a comparison. The polynomials have a proportion $>1$ and a proportion $<=1 \quad E_{\text {total }}=E_{\text {matter }}+E_{\text {antimatter }}$. For the proton, the majority with exponent of $\quad(2 \mathrm{pi})^{x} \quad$ is easy to calculate: $\mathrm{E} \quad E=(2 \mathrm{pi})^{4}+(2 \mathrm{pi})^{3}+(2 \mathrm{pi})^{2}-(2 \mathrm{pi})-2$. The interaction part is the reciprocal of the particle inside it. These are 3 shells of 3 polynomials. The smallest energy fraction with the smallest orbit should be an electron neutrino.
$E_{\text {neutrino }}=E_{\text {electron }} 2 / p i^{6} 2 \mathrm{pi}^{6} 2 / p i^{2} 1 / 4=(2 \mathrm{pi}-1) p i^{14} / 2=1.1510^{-6} \mathrm{eV} \quad$ It's not a real rest mass. All particles have the same speed. Everything revolves around something else. It is the reciprocal of the entire universe.

All calculations of radii to the solar system cannot be exact! The only exact laws are those of Kepler and Galilei, without pi. The 3 spatial coordinates are a construct of rational numbers and fractal-related coincidences. Pi is the geometric mean in chaos. The orbits and radii of the celestial bodies are a consequence of the zeta function.

## Code :

```
Sub Polynom()
    \(\mathrm{R} 0=696342: \mathrm{K} 1=2\) * \(\mathrm{PI}: \mathrm{K} 2=4{ }^{*} \mathrm{PI}^{\wedge} 2: \mathrm{K} 3=8 * \mathrm{Pl}^{\wedge} 3\)
    f = 0 : Do
        \(\mathrm{n}=0\) : Do
            I = 0 : Do
            \(\mathrm{m}=0\) : Do
                \(\mathrm{s}=0\) : Do
                fraction(0) \(=\) K3 ' Fraktal ' for planets
                fraction(1) \(=1 / \mathrm{K} 3\)
                            The energies of sun / moon are in relation (2pi) \({ }^{\wedge} 6\), radii in relation (2pi) \({ }^{\wedge} 3=248.050\)
                fraction(2) \(=1 / K^{\wedge} \wedge 2\)
                ' !! E_total = internal energy +- extaernal energy + observer
                        '!! E_total = fraktal * ( center + satellit + observer)
                \(E_{-}(\mathrm{n}, \mathrm{I}, \mathrm{m}, \mathrm{s})=\) fraction \((0){ }^{*}\left(\left(\mathrm{~K} 2 * 3^{\wedge} \mathrm{n} * 2^{\wedge} \mathrm{I}\right)+\left(\mathrm{K} 2 * 3^{\wedge} \mathrm{m} * 2^{\wedge} \mathrm{s}\right)+(1+\mathrm{K} 1+\mathrm{K} 2)\right)\)
                If E _ \((\mathrm{n}, \mathrm{l}, \mathrm{m}, \mathrm{s})=0\) Then Continue Do ' can simply be ruled out
                If t <= 2 Then order_n_I_m()
                object_+= 1
                \(s+=1\) : Loop Until \(s=2 \quad\) ' smallest quantum number for Mercury >> 1 pin \(1 / 2\)
```

```
                m += 1 : Loop Until m = 9 ' limited to m moon
                I += 1: Loop Until I = 14
            n += 1 : Loop Until n = 4
        f+= 1: Loop Until f=1
    f=0:l=0:m=0:s=0
    table()
End Sub
Sub order_n_l_m()
    K0 = R0 / (1 + K1 + K2) ' in nature the objects judge by their energy.
    'Two objects never have the same mass or radius (Heisenberg's inequality)
    ' >> i.e. the objects are half inside an object or half outside an object
    For i=0 To 11 ' Selection of the planets ' by radii
    For j=0 To 1 ' as next step selection of apoapsis and periapsis
            r_Orbit(n, I, m, s) = Sqrt(Abs(E_(n, I, m, s))) * Sign(E_(n, I, m, s))/4
            'Sun
            P_n(0, 0) = 0:P_I(0, 0) = 0
            P_n(0, 1) = 0: P_\ (0, 1) = 0: P_m(0, 1) = 0:P_s(0, 1) = 0
            'external planets
            'Jupiter
            P_n(6,0) = 3:P_I(6,0) = 6:P_m(6,0) = 4 ' together with moons
            P_n(6, 1) = 3:P_l(6, 1) = 6:P_m(6, 1) = 5:P_s(6, 1) = 1
            R(3, 6, 4) = K0 * (K1-1-2 / K\overline{1})
            'Saturn
    P_n(7, 0) = 3:P_I(7, 0) = 8:P_m(7, 0) = 4
    P_n(7, 1) = 3: P_l (7, 1) = 8: P-m(7, 1) = 4: P_s(7, 1) = 1 ' small moone saturn ring!
    R(3, 8, 4) = K0 *- (K1-2 - 1/ K1)
    'Uranus
    P_n(8, 0) = 3:P_(8,0) = 10:P_m(8, 0) = 4
    P_n(8, 1) = 3: P-}|(8,1)=10:P_m(8, 1) = 4:P_s(8, 1) = 1
    R(3, 10,4) = K0* (2-2/K1-1/K2)
    'Neptune
    P_n(9, 0) = 3:P_l(9, 0) = 11: P_m(9, 0) = 8 ' Together with dwarf planet!
    P_n(9, 1) = 3:P_ }|(9,1)=11:P_m(9, 1)=8:P_s(9, 1)=
    R(3, 11, 8) = K0 * (2-2 / K1-2 / K2)
    'Pluto
    P_n(10, 0) = 3:P_l(10, 0)=12:P_m(10, 0) = 8 ' the last planet together with dwarf planet!
    P_n(10, 1) = 3: P_}|(10,1)=12:P_m(10, 1)= = :P_s(10, 1)=
    R(3, 12, 8) = K0 *-(1/K1-2 / K2 - - / K K )
                                    'End of the sun system with planets
    P_n(5,0)=2:P_l(5, 0)=5 'Transitional phase, asteroids
    P_n(5,1) = 3:P_l(5, 1) = 5:P_m(5, 1) = 2:P_s(5, 1)=1 ' Intersection with orbits n=2 and n=3
    ' inner planets
                            The radii are divisible by (K1-1-2 / K1) (sequence of Jupiter)
    ' erth
    P_n(3, 0) = 2:P_I(3, 0) = 3
    P_n(3, 1) = 2: P_|(3, 1) = 3:P_m(3, 1) = 1:P_s(3, 1) = 1
    R(2,3,0) = K0 *- (2/K1 + 4/K2 + 3/K3)
    R(2,3,1)=R(2,3,0)* (4/PI-1) ' Earth moon divider 4 / PI - 1
    'Venus
    P_n(2, 0) = 2: P_I(2, 0) = 2
    P_n(2, 1) = 2: P- |(2, 1) = 2:P_m(2, 1) = 1:P_s(2, 1) = 1
    R(2, 2, 0) = K0 * (2 / K1 + 3 / K\overline{2}+3/K3)
    'Mars
    P_n(4, 0) = 2: P_I(4, 0) = 4 : P_m(4, 0) = 0
    P_n(4, 1) = 3: P_l(4, 1) = 3: P_m(4, 1) = 0:P_s(4, 1)=1 ' half asteroid
    R(2,4,0) = K0 *- (1/K1 + 2/K2 + 3/K3)
    R(2, 4, 1) = R(2, 4, 0) / K2 / 2 * (4/PI-1) 'moon
    R(2, 4, 2) = R(2, 4, 0)/K2 / 4 * (4/PI - 1) 'moon
    'mercury
    P_n(1,0) = 1:P_l(1,0) = 0:P_m(1,0) = 1
    P_n(1, 1) = 1:P_|(1, 1) = 2: P_m(1, 1) = 1
    R(1,0, 1) = K0 * (1/K1 + 1/K\overline{3}+1/K4)
    If j = 0 Then r_min(i, 0,m, s, j) = RO / 1000000 * r_Orbit(P_n(i, j), P_l(i, j), P_m(i, j), P_s(i, j))
    If j = 1 Then r_max(i, 0,m,s, j) = RO / 1000000 * r_Orbit(P_n(i,j), P_l(i, j), P_m(i, j), P_s(i, j))
        Next
    Next
End Sub
```

```
Sub Time()
    ' The specified planetary radii are Not corrected by moons. The frequencies calculated here,
    ' have been extracted from the radii and therefore do not have to conform exactly to Newton's laws!
    'Sun
    If P}=0\mathrm{ And m = 0 Then
        R_Z_(0, 0) = U_Z(0, 0, 0) / K1 - 2 '* (2 * PI)
        U_Z_(0,0) = R_Z_(0, 0) 'At the surface of a body, rotation time = rotation time
    End If
    'Merkury
    U_Z_(1, 1) = U_Z_(0, 0) * 3 + 2 * K1
    R_Z_(1, 1) = U_Z_(0,0) * 2 + K1 + 2
    'Venus
    U_Z_(2,0) = U_Z_(1, 1)* 2 + U_Z_(0, 0) * 2-2
    R_Z_}(2,0)=\mp@subsup{U}{_}{-}\mp@subsup{Z}{-}{-}(1,1) *2 + U_Z_(0,0) * 3-8
    'erth
    U_Z_(3,0)=(U_Z_(2, 0) * PI + R_Z_(0, 0))/2 + 1
    R_Z_(3, 0) = 1
    U_Z_(3,1) = R_Z_(0,0) + 2
    R_Z_(3,1) = R_Z_(0,0) + 2
    'mars
    U_Z_(4, 0) = U_Z_(3, 0) * 2 - U_Z_(3, 1)
    R_Z_(4,0) = 1
    'Artroids
    U_Z_(5, 0) = U_Z_(4, 0) * 5 / 2
    R_Z (5,0)=0'
    'jupiter
    U_Z_(6, 4) = U_Z_(5, 0) * 5 / 2
    R_Z_(6,4) = 1
    'saturn
    U_Z_(7, 4) = U_Z_(6, 4)* 5 / 2
    'uranus
    U_Z_(8, 4) = U_Z_(7, 4) * 5 / 2
    'neptun
    U_Z_(9, 8) = U_Z_(8, 4) * 5 / 2
    'pluto
    U_Z_(10, 8) = U_Z_(9, 8) * 5 / 4
    U_Z(n,I,m)=U_Z_(P,m)
    R_Z(n,I,m)= R_Z_(P,m)
End Sub
```

Sub Graphic()
End Sub
Sub Table()
End Sub

## Examples of masses of elementary particles and radii of celestial bodies

## muon mass

$$
m_{\text {muon }}=(2 \mathrm{pi})^{3}-(2 \mathrm{pi})^{2}-2 E_{W}^{2}=(2 \mathrm{pi})^{3}-(2 \mathrm{pi})^{2}-2-2 / p i^{2}=206.77 m_{e}
$$

Theory: $206.77 \mathrm{~m}_{\mathrm{e}} \quad$ measured 206,7682830(46) $\mathrm{m}_{\mathrm{e}}$
The more particles are entangled together, the more complex the polynomial becomes interaction terms.
mass of the proton $m_{p}=$

$$
(2 \mathrm{pi})^{4}+(2 \mathrm{pi})^{3}+(2 \mathrm{pi})^{2}-(2 \mathrm{pi})^{1}-2-1-2 / p i-2 / p i^{6}\left(1-2 / p i^{2}-2 / p i^{4}-2 / p i^{6}\left(1+1 / p i^{2}(2 \mathrm{pi}-1 / 4)\right)\right)
$$

Theory: $1836.15267343 \mathrm{~m}_{\mathrm{e}} \quad$ measured $1836,15267343(11) \mathrm{m}_{\mathrm{e}}$

## Photon

$\operatorname{spin} 1=\operatorname{spin} 1 / 2+\operatorname{spin} 1 / 2 \quad E_{\text {ges }}=E_{\text {Elektron }}+E_{\text {Antielektron }} \quad N_{\text {Elektron }}=-N_{\text {Antielektron }}=1 \quad E_{\text {Elektron }}>0$
$E_{\text {Antielektron }}<0$. The photon consists of an electron and an anti-electron with rest mass $=0$.

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

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

## Ratio Mercury Orbit / Sun

$$
\left.\begin{array}{c}
696342 /\left((2 \mathrm{pi})^{3}+(2 \mathrm{pi})^{2}\right. \\
\text { Sun } \\
\text { Orbit } \\
\text { Opi })
\end{array} \underset{\text { Orbi }}{1 /(2 \mathrm{pi})^{2}}+1 /(2 \mathrm{pi})^{3}\right)\left(1+\underset{\text { Mercury }}{1 /(2 \mathrm{pi})^{6}}+1 /(2 \mathrm{pi})^{7}\right)=2439.66
$$

## Constants

Constants such as $\mathrm{c}, \mathrm{h}, \mathrm{G}$ can be calculated at the end at will.

$$
c=4 /(2 \mathrm{pi}) 6378626^{2} \mathrm{~m}^{2} /(\text { Tag } m)
$$

The equatorial radius is $6378,137 \mathrm{~km}$ (GSM 80) with a difference of 489 m .
hG is a single constant. The unit kg cancels out.

$$
h G c^{5} \sqrt{\left(p i^{4}-p i^{2}-1 / p i-1 / p i^{3}\right)}=0.999991
$$

Certainly the Newton's law of gravitation and the electromagnetic force and the quantum theory with the constants $\mathrm{c}, \mathrm{G}, \mathrm{h}$ are an efficient alternative. Questions about dark energy, dark matter, big bang are pure speculation.

## Table:

The specified planetary radii are not corrected by moone. The frequencies are shown together. Extracted from the radii and therefore do not have to conform exactly to Newton's laws!

| sun $\quad \mathrm{R}=696342,0$ | messured: 696342 | error: 0,000 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{U} \mathrm{Zt}=25,128$ | messured: 25,38 | error: -0,010 |  |  |  |
| $\mathrm{R} \mathrm{Zt}=25,1$ | messured: 25,38 | error: -0,010 |  |  |  |
|  |  |  | quantum numbers |  |  |
| mercury $\mathrm{R}=2439,6$ | messured: 2439,7 | error: 0,000 | n | 1 | m |
| $\mathrm{U} \mathrm{Zt}=87,95$ | messured: 87,969 | error: 0,000 |  |  |  |
| $\mathrm{R} \mathrm{Zt}=58,5$ | messured: 58,65 | error: -0,002 |  |  |  |
| Apoapsis $=46,2$ | messured: 46,0 | error: 0,00 | 1 | 0 | 1 |
| Periapsis $=69,3$ | messured: 69,8 | error: -0,01 | 1 | 2 | 1 |
| inclination 7,1377 ${ }^{\circ}$ | Eccentricity ,2003 |  |  |  |  |
| Venus $\mathrm{R}=6051,8$ | messured: 6051,8 | error: 0,000 |  |  |  |
| $\mathrm{U} \mathrm{Zt}=224,157$ | messured: 224,701 | error: -0,002 |  |  |  |
| R Zt $=243,3$ | messured: 243,6 | error: -0,001 |  |  |  |
| Apoapsis $=106,5$ | messured: 107,4 | error: - 0,01 | 2 | 2 | 0 |
| Periapsis $=113,2$ | messured: 108,9 | error: 0,04 | 2 | 2 | 1 |
| inclination ${ }^{\circ}$ | Eccentricity |  |  |  |  |
| erth $\quad R=6429,0$ | messured: 6356,75 | error: 0,011 |  |  |  |
| $\mathrm{U} \mathrm{Zt}=365,669$ | messured: 365,25 | error: 0,001 |  |  |  |
| $\mathrm{R} \mathrm{Zt}=1,0$ | messured: 1 | error: 0,000 |  |  |  |
| Apoapsis $=148,4$ | messured: 147,1 | error: 0,01 | 2 | 3 | 0 |
| Periapsis $=153,3$ | messured: 152,1 | error: 0,01 | 2 |  | 1 |
| inclination ${ }^{\circ}$ | Eccentricity |  |  |  |  |
| satellit $\quad R=1756,6$ | messured: 1737,4 | error: 0,011 |  |  |  |
| Periapsis $=0,393$ | messured: 0,406 | error: -0,03 | 2 | 3 | 1 |
| Mars R $=3304,5$ | messured: 3396,2 | error: -0,027 |  |  |  |
| U Zt $=704,209$ | messured: 686,98 | error: 0,025 |  |  |  |
| $\mathrm{R} \mathrm{Zt}=1,0$ | messured: 1,026 | error: -0,025 |  |  |  |
| Apoapsis $=208,3$ | messured: 206,6 | error: 0,01 | 2 | 4 | 0 |
| Periapsis $=255,0$ | messured: 249,2 | error: 0,02 | 3 | 3 | 0 |


| inclination 3,2122 ${ }^{\circ}$ | Eccentricity ,1009 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| satellit $\quad \mathrm{R}=11,4$ | messured: 11,2 | error: 0,021 |  |  |  |
| Periapsis $=0,655$ | messured: 0,697 | error: -0,06 | 3 | 3 | 0 |
| satellit $\quad \mathrm{R}=5,7$ | messured: 6,1 | error: -0,063 |  |  |  |
| Periapsis = 1,309 | messured: 1,393 | error: -0,06 | 3 | 3 | 0 |
| Asteroiden |  |  |  |  |  |
| $\mathrm{U} \mathrm{Zt}=1760,524$ | messured: | error: $\infty$ |  |  |  |
| Apoapsis = 293,5 | messured: 299,2 | error: - 0,02 | 2 | 5 | 0 |
| Periapsis $=512,0$ | messured: 508,6 | error: 0,01 | 3 | 5 | 2 |
| inclination ${ }^{\circ}$ | Eccentricity |  |  |  |  |
| Jupiter R $=73933,5$ | messured: 71492 | error: 0,034 |  |  |  |
| $\mathrm{U} \mathrm{Zt}=4401,309$ | messured: 4332,75 | error: 0,016 |  |  |  |
| Apoapsis $=732,9$ | messured: 740,5 | error: - 0,01 | 3 | 6 | 4 |
| Periapsis $=810,8$ | messured: 816,7 | error: -0,01 | 3 | 6 | 5 |
| inclination ${ }^{\circ}$ | Eccentricity |  |  |  |  |
| Saturn $\quad \mathrm{R}=61412,3$ | messured: 60268 | error: 0,019 |  |  |  |
| $\mathrm{U} \mathrm{Zt}=11003,273$ | messured: 10759,1 | error: 0,023 |  |  |  |
| Apoapsis $=1440,7$ | messured: 1433,5 | error: 0,01 | 3 | 8 | 4 |
| Periapsis $=1449,0$ | messured: 1433,5 | error: 0,01 | 3 | 8 | 4 |
| inclination ${ }^{\circ}$ | Eccentricity |  |  |  |  |
| Uranus $\mathrm{R}=24665,4$ | messured: 24973 | error: -0,012 |  |  |  |
| $\mathrm{U} \mathrm{Zt}=27508,182$ | messured: 30685 | error: -0,104 |  |  |  |
| Apoapsis $=2868,7$ | messured: 2870,8 | error: 0,00 | 3 | 10 | 4 |
| Periapsis $=2872,9$ | messured: 2870,8 | error: 0,00 | 3 | 10 | 4 |
| inclination | Eccentricity |  |  |  |  |
| Neptun R $=24288,2$ | messured: 24341 | error: -0,002 |  |  |  |
| $\mathrm{U} \mathrm{Zt}=68770,456$ | messured: 60189 | error: 0,143 |  |  |  |
| Apoapsis $=4284,6$ | messured: 4497,0 | error: - 0,05 | 3 | 11 | 8 |
| Periapsis $=4506,1$ | messured: 4497,0 | error: 0,00 | 3 | 11 | 8 |
| inclination ${ }^{\circ}$ | Eccentricity |  |  |  |  |
| Pluto $\quad R=1495,6$ | messured: 1188 | error: 0,259 |  |  |  |
| $\mathrm{U} \mathrm{Zt}=85963,07$ | messured: 90559,7 | error: -0,051 |  |  |  |
| Apoapsis $=5896,5$ | messured: 5906,2 | error: 0,00 | 3 | 12 | 8 |
| Periapsis $=6059,3$ | messured: 5906,2 | error: 0,03 | 3 | 12 | 8 |
| inclination | Eccentricity |  |  |  |  |

[1] Theory of everything - The Coriolis force results in the quantum theory http://viXra.org/abs/2112.0007?ref=13104262
[2] Theory of everything - reference to relativity and quantum theory http://viXra.org/abs/2112.0133

Further calculations are on my homepage www.toe-photon.de
Dr. Helmut Schmidt
Grasbrunn
Helmut.Schmidt@campus.Imu.de

