Theory of Everything

PD Dr. Melissa Blau, University of Tübingen

The main problem in formulating a theory of everything is that established methods known from other quantum field theories cannot be directly transferred to the general theory of relativity. We will show, however, that all four basic interactions can be expressed by $E_i = ge\overline{v}cB/8\pi f_r$, where v is c for the electroweak force and the nuclear force, while for gravity it is the square root of the gravitational potential $v = \sqrt{mG/r}$.

Introduction

We have shown that protons have different relative velocities as they rotate around themselves, the earth, the sun, the center of the galaxy, etc. There are also relative velocities within the proton, which lead to a different range of the forces and a different quantized radius, since all interactions are based on Heisenberg's principle, which states that ΔpΔx>=h/4π. Since ΔEΔt, which is equivalent to ΔpΔx, is smaller than h/4π for all interactions, Δx is quantized to R=h/4πΔp=c/8πfr (effective quantized radius). This could be shown impressively in a recent publication in Science Advance.

The gravitational energy is derived in equation (1) from the relationship for the potential energy mcv, which is equal to the torque of the proton. Since the torque is in turn equal to the magnetic moment of the proton multiplied by the magnetic flux density, a relationship for the gravitational energy of the proton to the magnetic flux density can be derived from this formula, which corresponds to the formula above.

With Coulomb energy as electromagnetic energy, there is the relationship between electrical charge ($q^2/4\pi\varepsilon_0 r$) and the magnetic flux density via the magnetic field strength H=Δq/rΔt in a circular conductor. In a proton, the charge is not evenly distributed; when a proton rotates, a current flow occurs, the frequency f_r in this case being the inverse of the time in which the charges (in the quarks) rotate.

The nuclear energy between the quarks is achieved via the Lorenz force F=qvB (magnetic field of a proton), which holds the proton together over a distance that corresponds to the quantized radius of the proton.

The weak interaction acts via the same Lorenz force, which also causes the quark structure to rotate in a direction perpendicular to the main rotation axis, but over a different quantized distance R=c/8πfr, whereby this frequency fr comes from the special constellation of the joint rotation of the quarks in a proton.

$$R = \frac{h}{2\pi mv} = \frac{h}{4\pi^2 mfr} = \frac{2\pi mch}{16\pi^2 mfh} = \frac{c}{8\pi f}, \qquad r = \frac{4h}{2\pi mc} = 0.8412356\,fm \quad (1)$$

Because quarks move at almost the speed of light within the nucleon, they have a certain DeBroglie wavelength/frequency fd=c/&=mc2/h, which leads to a bound rotation of the quarks (matter waves or rotational waves) with a rotational speed of v=2πrfd (r is the distance between the quarks), whose rotational wave frequency fr is calculated from fr=mv2/h.

Derivation

$$\boxed{E_i = \frac{aec\bar{v}B}{4\pi f}}$$

For the gravitational force:

$$E_g = \frac{mvc}{4} = hf_g = m \times B = g\frac{e}{2m}\frac{h}{2\pi}B = \qquad \Big| \cdot \frac{4\pi\bar{v}mR}{h} = 1$$

$$= \frac{ge\bar{v}cB}{8\pi f} \qquad g = 5.585 \qquad (1)$$

For the Coulomb force:

$$E_e = \frac{e^2}{4\pi\epsilon_0 r} = \frac{e^2c^2\mu_0}{4\pi r} = \frac{e^2c^2B}{4\pi rH} = \qquad \Big| \cdot \frac{grH}{2ef} \approx \frac{I\Delta t}{\Delta q} = 1$$

$$= \frac{gec^2B}{8\pi f} \qquad \bar{v} = c \qquad f = \frac{grB}{2e\mu_0} = 213951.628\,Hz \qquad (2)$$

For the nuclear force:

$$E_n = gecBR = \frac{gec^2B}{8\pi f} \qquad f = f_g = 2180.34\,Hz \qquad \bar{v} = c \qquad (3)$$

For the weak interaction:

$$E_w = gecBR = \frac{gec^2B}{8\pi f} \qquad f = \frac{4\pi^2r^2f^2}{h} = \frac{4\pi^2r^2m^2c^4}{h^3} = 1.07 \cdot 10^{16}Hz$$

$$\bar{v} = c \qquad (4)$$