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# Wave Model of Gravity 

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#### Abstract

Phenomenological model of the gravitational wave the interaction of the substance of the cosmos. The formula of the gravitational interaction between the gravitating masses. The formula of gravitational attraction between the protons at very close distance between them.


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Let the two protons are a distance R from each other and fixed with respect to absolute space (fig.1) The matter of the Universe crushed into the protons. The protons of the Universe are in a state of free fall. That is an idealization of the real state of matter in the Universe. Consider the wave model of the gravitational interaction between the stationary protons. We denote these protons as A and B (fig.1) For protons A and B from all parties within the solid angle $4 \pi$. Fall wave of the high frequency gravitational field from the substance of the infinite outer space. In my research on the shielding of gravity in space. It was obtained the expression for intensity of a gravitational field from an infinite space half-space

$\mathrm{g}=\frac{3}{2} \gamma \frac{\pi \mathrm{~m}}{\sigma} \quad$ where $\gamma$ is the gravitational constant. $\pi=3.14 . \mathrm{m}$ is the rest mass of the proton. $\sigma$ - cross-section shielding highfrequency where $\gamma$ is the gravitational constant. $\pi=3.14$. m is the rest mass of the proton. $\sigma$ - cross-section shielding high-frequency waves of gravity. Proton are in free fall in outer space. The cross section of the shielding $\sigma=\frac{\pi \mathrm{dd}}{4}$ where $\mathrm{d}=3 * 10-15 \mathrm{~m}$ - the diameter of a proton. Falling from space HF gravitational waves "pumped" protons A and B the gravitational energy. To maintain energy balance. Protons A and B emit excess energy into space. Within the boundaries of the solid angle $4 \pi$. In a spherically symmetric gravitational wave fronts. These wave fronts. If you fall on the protons of the space. Exert a force on these protons. Consider the strong interaction between protons A and B. Let at some moment of time the proton A radiated spherically symmetric wave front with energy $\varepsilon 0$. After some time this wave front reaches the proton B. Part of the energy of this wave front is absorbed by the proton B .

Let us denote this energy as $\varepsilon_{2}=\frac{\varepsilon 0 \pi r r}{4 \pi \mathrm{RR}}=\frac{\varepsilon 0}{4} \frac{\mathrm{rr}}{\mathrm{RR}}$; where $\mathrm{r}=\frac{d}{2}$ the radius of the proton. After absorbing a proton $B$ In energy $\varepsilon 2$. The proton $B$ emits a wave front with energy $\varepsilon_{0}+\varepsilon_{2}$. After some time this wave front will reach the proton is A. Part of the energy this wave front is absorbed by the proton A. Let us denote this energy
$\varepsilon_{1}=\frac{(\varepsilon 0+\varepsilon 2)}{4 \pi \mathrm{RR}} \pi \mathrm{r}^{2}=\frac{\varepsilon 0}{4}\left(1+\frac{r r}{4 \mathrm{RR}}\right) \frac{\mathrm{rr}}{\mathrm{RR}}$ At the same time proton A emits
a wave front with energy $\varepsilon_{0}+\varepsilon_{1}$ Part of the energy of this front will be absorbed by the proton B . let us denote this energy
$\varepsilon_{22}=\frac{(\varepsilon 0+\varepsilon 1)}{4 \pi R R} \pi r^{2}=\frac{\varepsilon 0}{4}\left(1+\frac{\mathrm{rr}}{4 \mathrm{RR}}+\frac{\mathrm{rrrr}}{16 \mathrm{RRRR}}\right) \frac{\mathrm{rr}}{\mathrm{RR}}$
At the same time the proton $B$ will emit wavefront energy $\varepsilon_{0}+\varepsilon_{22}$. After some time this wave front reaches the proton A . We denote the energy absorbed by the proton A how

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\varepsilon_{11}=\frac{(\varepsilon 0+\varepsilon 22)}{4 \pi \mathrm{RR}} \pi \mathrm{r}^{2}=\frac{\varepsilon 0}{4}\left(1+\frac{\mathrm{rr}}{4 \mathrm{RR}}+\frac{\mathrm{rrrr}}{16 \mathrm{RRRR}}+\frac{\mathrm{rrrrrr}}{64 \mathrm{RRRRRR}}\right) \frac{\mathrm{rr}}{\mathrm{RR}}
$$

At the same time the proton A will radiate wave front with energy $\varepsilon_{0}+\varepsilon_{11}$. After some time this wave front reaches the proton $B$. The energy absorbed by the proton $B$ would be equal
$\varepsilon_{222}=\frac{(\varepsilon 0+\varepsilon 11)}{4 \pi R R} \pi r^{2}$ The process of emission and absorption
will occur an infinite number of times. The energy from space is absorbed by the protons A and B continuously and constantly in time. For energy $\varepsilon n n n$... the expression in brackets is a geometric progression. The sum of which is equal $S=\frac{1}{1-\frac{\mathrm{IT}}{4 \mathrm{RR}}}$ For $R \gg r$. The Sum $S \approx 1$. Obviously energy $\varepsilon_{0}$ is proportional to the tension $2 \mathrm{~g}=3 \gamma \frac{\pi \mathrm{~m}}{\sigma}$ Then $\varepsilon_{0}=3 \mathrm{k} \pi \gamma \frac{\mathrm{m}}{\sigma} \quad$ where $\mathrm{k}-$ coefficient of proportionality. We find an expression for the law of the world
gravity. The energy exchange between protons $\varepsilon=\frac{\varepsilon 0}{4} \frac{\mathrm{rr}}{\mathrm{RR}}$
proportional gp. Where gp the intensity of the gravitational field acting on the proton A from the proton B . Then $\varepsilon_{0}=2 \mathrm{~kg}$ and
$\varepsilon=\mathrm{kg}_{\mathrm{p}}$ Here $\frac{\varepsilon}{\varepsilon 0}=\frac{\mathrm{gp}}{2 \mathrm{~g}}=\frac{\mathrm{rr}}{4 \mathrm{RR}}$ Here $\mathrm{g}_{\mathrm{p}}=\frac{1}{2} \mathrm{~g} \frac{\mathrm{rr}}{\mathrm{RR}}=\frac{3}{4} \pi \gamma \frac{\mathrm{~m}}{\sigma} \frac{\mathrm{rr}}{\mathrm{RR}}$ or $\mathrm{g}_{\mathrm{p}}=\frac{3}{4} \gamma \frac{\mathrm{~m}}{\mathrm{RR}}$
Finally the force of interaction between protons $\mathrm{F}=\mathrm{m}_{\mathrm{p}}=\frac{3}{4} \gamma \frac{\mathrm{~mm}}{\mathrm{RR}}$; where $\frac{3}{4} \gamma$ there is a coefficient of gravity. In the study $\frac{3}{4} \gamma<\gamma$.

This is due to the fact: In reality, in space there are clumps of matter in the form of stars, planets, asteroids. Virtually no loss pereyzdachy gravitational energy back into space. For this reason. Within the solar system the density of gravitational energy is slightly higher than the model in which the substance is split into protons. Proton gas is not only pereslushal. But also partially absorbs the gravitational energy. It is spent on the kinetic energy of their motion Proton gas is not only pereslushal. But also partially absorbs the gravitational energy. It is spent on the kinetic energy of their motion. In the model, the proton gas density gravitational energy is less than the inner solar system, which means that
$\frac{3}{4} \gamma<\gamma$. Perhaps not considered pumping the gravitational energy of the electromagnetic

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