Модуляция гравитационного поля Земли

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**Abstract:**

On the surface of the Earth gravitation is manifested in all macroscopic phenomena. The force of attraction to the Earth can be easily measured. Apply gravity to turn it into a variable gravitational field (gravitational waves). For this modulated gravitational field of the Earth. Consider the device that modulates the gravitational field of the Earth.

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Modulation of the Earth's gravitational field

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Keywords: Modulation of the Earth's gravitational field, variable gravitational field (gravitational waves), measurement a gravitational waves.
Modulation of the Earth’s gravitational field

Consider the device, which can be modulated continuous gravitational field of the Earth (fig.1).

Figure BCMN has lead cylinder, freely falling on the surface of the Earth is straight down. The mass of the falling of the cylinder equal to \( m \). On fig.1. the Earth is drawn in the form of a ball falling under the cylinder. Let squares of the upper and lower ends of the cylinder equal to 1 m\(^2\). The height of the cylinder BM = CN is also assumed to be 1 m. Consider how changing the gravitational field of the Earth inside the cone ABC in free fall cylinder on its surface. Let’s call this cone, the cone of weightlessness. Direct AB and AC are tangent to the surface of the globe. For acceleration of falling of the cylinder, the gravitational field of the Earth spends some energy. Reducing energy weakens the gravitational field of the Earth. Inside the cone ABC gravitational field must be zero. It can be only in case if the height of the cylinder \( h \) over the limit of the value of \( h_0 \). Let the lead height of the cylinder equal to 1m Square cross sections of the cylinder equal to 1 m\(^2\). Will there be enough height of the cylinder \( h = 1 \)m to completely destroy the gravitational field inside the cone ABC for a free fall of the cylinder. The weight of the cylinder \( m = \rho v \); where \( \rho \)- is the density of lead (specific gravity), v is the volume. We will substitute. We obtain \( m = 11.35 \times 10^3 \) kg. Mass number of lead 207.2. The mass of an atom of lead \( 207.2 \times 1.66 \times 10^{-27} = 3.44 \times 10^{-24} \) kg. The number of atoms of lead in the cylinder \( N = 3.3 \times 10^{27} \). The radius of the nucleon \( 10^{-15} \) m. The Volume of the nucleon \( \frac{3}{4} \pi \times 10^{-45} \) m\(^3\). The volume of the atom of lead \( 207.2 \times \frac{3}{4} \pi \times 10^{-45} \) m\(^3\). The radius of an atom of lead \( 5.9 \times 10^{-15} \) m. The main section of the atom of lead \( 4.37 \times 10^{-28} \) m\(^2\). The area of coverage of all the atoms of lead components of the cylinder, located in a plane perpendicular to the axis of the cylinder equal \( 4.37 \times 10^{-28} \times 3.3 \times 10^{27} = 1.45 \) m\(^2\). Got that magnitude \( 1.45 \) m\(^2\) > 1m\(^2\). The area of coverage of all the atoms of lead, the more space the base of the cylinder. This means that in a free fall of the cylinder, the gravitational field of the Earth is fully shielded. And on the upper surface of the cylinder inside the cone ABC gravitational field to no.

To test the above hypotheses, you can use the device to malfunction construction of piles. This device lead cylinder will fall, and then when expanding hot gases to the combustion chamber, will rise to a certain height. Having reached "a dead point ", cylinder again will start to fall. In the fall, close to the upper base of the cylinder, inside the cone zero gravity, the gravitational field disappears completely. And when lifting cylinder fully occurs. The gravitational field strength will vary in the
range of $0 \leq g \leq 9.8 \text{ m/s}^2$. Moving along with the incident cylinder cone of weightlessness ABC, will be the source of variable gravitational fields (gravitational waves). In order to increase the height of the cone ABC, it is necessary experience to carry out on the top of a high mountain. In this case the volume of the cone will increase, modulation will be more effective. If in the upper “dead point” to fix measuring the gravitational field strength. But at the beginning of the fall of the cylinder at the base of the cone of weightlessness will be the disappearance of the gravitational field. And when lifting cylinder gravitational field will be restored. How it actually will show only an experiment.