

TELEPORTATION

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Teleportation is the hypothetical change of coordinates of objects, at which the trajectory of the object can't be described by the mathematically continuous function of time. The term was introduced by Charles Fort in 1931 for description of strange disappearances and appearances, paranormal effects, which, in his opinion, have something in common. In the academic publications term "teleportation" is often used in context of copying the properties of initial object. This tradition came from the early science fiction, where this way was the only pseudoscientific way to represent the action of teleportation.

"Mole holes" are thin tubes of space-time, connecting remote areas of the Universe. Mole holes may connect the parallel or the arising universes. General theory of relativity allows the existence of such tunnels, though it is necessary for the existence of the passable mole hole to be filled with the exotic matter with negative energy density. This matter makes the strong gravitational repulsion and interferes with hole collapse. Exotic matter is a concept of physics of elementary particles, describing any (usually hypothetical) substance, which violates one or several classical conditions.

Philadelphian experiment (also known as "Rainbow" Project) is a mythical experiment, allegedly carried out by Naval Forces of the USA, October 28, 1943, when the destroyer "Eldridge" disappeared and then immediately moved in space for some tens of kilometers. According to one of the hypothesis, Einstein secretly checked his Uniform theory of a field, which connects all forces of the Universe - electromagnetic, gravitational, nuclear - through "Philadelphian experiment". At this time another famous scientist Nikola Tesla closely cooperated with Einstein on many projects, and it is quite possible that "Philadelphian experiment" was the result of their collaboration. The scientists directed by the military wanted to make the warship that would be invisible to a radar. The powerful electronic device like the huge magnetron (the generator of supershort waves) was established onboard this ship. When the magnetron started to work, the ship disappeared. After a while "Eldridge" materialized again, but in absolutely different place. From all the crew of 181 people only 21 returned back safe, 13 people died of burns, radiation or electric current and fear.

Quantum teleportation represents the copying of properties of particle A on just the same particle B, which is located at some distance. Quantum teleportation is the transfer of quantum state on the distance with the help of the linked (confused) couple and classical communication channel disconnected in space, at which the state collapses in a starting point during carrying out measurement and then it is recreated in a reception point. Practical use for quantum teleportation is quantum computers, where information is stored in the form of a set of quantum states. Such mean of teleportation can be presented as a quantum lock of transistor where the drain and the source are identical. So, if to improve the process, a source and a drain, slightly, to program their states, it is possible to receive a programmable quantum lock. Combining a set of such locks makes it possible to create the real quantum computer.

Human teleportation. The British student-physicists calculated, what time will be required for transfer of the data necessary for teleportation of the person from Earth surface on space station in a geostationary orbit. The teleportation process described in many fantastic works assumes transfer of information about physical bodies with subsequent their "assembly" at "terminal station" on distance. Students from University of Leicester didn't consider technical capability of teleportation and calculated only the amount of information which is transferred, in their opinion, will correspond to teleportation of one person. Teleportation of the person will require $4,85 \cdot 10^{15}$ years (4,85 quadrillion), which approximately in 350 thousand times exceeds the age of the Universe (14 billion years). The amount of the energy necessary for transfer of data depends on the channel width, that is why acceleration of the process will increase energy consumption. Therefore, proceeding from the conclusion of the authors of the research, teleportation, fast and cheap, from the point of view of energy consumption, is beyond opportunities of modern technologies of data transmission.

Literature:

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