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Practical Consequences of Theory of everything

Speed limit

The ultimate speed of travel is the speed of light.

Slowing down the speed of processes in elementary particle systems

The speed of any processes in elementary particle systems can be slowed down to almost zero (the period tends to infinity). The absolute velocity of elementary particles does not change and remains equal to the speed of light. The relative velocity between the elementary particles of the system changes.

However, this is only possible for individual objects, and not for the entire universe.

Adaptive matter

Any other matter/antimatter can be synthesized from any matter/antimatter.

Stones can be converted into gold and vice versa.

Theoretically, it is possible to dynamically rearrange the shape, structure and composition of levels higher than elementary (quantum photons and quantum gravitons). It is possible to make adaptive matter that adapts to any requirements within the laws of physics. This is extremely difficult, but theoretically possible.

Robotization terraformers - colonizers

It is possible to send special terraformer robots to other planets that will adjust the ecosystem to the necessary requirements and even grow and train the first colonists themselves.

Problems of intergalactic travel

The possibility of intergalactic travel may be severely limited due to the impossibility of replenishing the stock of lost elementary particles in an almost complete vacuum (there are almost no external sources of elementary particles).

Problems of traveling at near-light speeds

The journey of living beings through the universe makes sense only at a speed close to the speed of light. But at the same time it is very difficult to detect objects so as not to crash into them. It is necessary to send special detecting pulses from photons (the principle of echolocation / sonar) and even this does not guarantee the detection of small objects. In addition, it is also extremely problematic to quickly change the trajectory at near-light speeds. Because of this, the ship must be modular with many duplications of functions and good front protection.

Immortality

It is possible to develop conditional immortality, for example, restoring the ideal state of cells and the body as a whole.

Cloning and teleportation

Complete cloning is possible and, accordingly, teleportation (with special devices at both ends). It can also be an alternative to long and dangerous space travel.

Black Hole explosions

Black holes without quantum gravitons must lose stability and explode when there is a critical shortage of quantum gravitons in their composition.

Impossible

- time travel
- traveling faster than the speed of light
- wormholes
- parallel universes
- singularity
- probability and choice options as such

Reaching a speed close to the speed of light

An important practically necessary moment is the acceleration of spacecraft / probes to speeds close to the speed of light. One of the interesting options may be a space rail accelerator (railgun) located in space. With sufficient length and energy, it can accelerate a capsule with a payload to high speeds.

However, the most promising options are the photon sail and photon engine.

The photon sail is a passive engine. In fact, a co-directional stream of photons should get into it, which will accelerate the spacecraft / probe to speeds close to the speed of light.

The photon engine is active. It is installed on a spacecraft and emits photons in one direction, which is opposite to the direction of the required acceleration. The photon engine involves the installation of a nuclear or hydrogen reactor on a spacecraft. It will be quite difficult to create a photon engine that quickly changes the speed of a spacecraft. However, this is compensated by the possibility of constant operation and the same output power.

Photonic variants are extremely energy efficient.

Theoretically, it is possible to develop devices based on gravitational acceleration. Blazars show us that it is possible to create a device that maximally emits gravitons in one plane, which means that spaceships can be accelerated by gravitons when they are in this plane. It is still difficult to understand how to organize a directed beam of gravitons. However, its generation is also theoretically possible, which will increase energy efficiency. In order to develop gravitational accelerators, it is necessary to better understand the processes of interaction of quantum photons with quantum gravitons both in vacuum and inside their clots of what the elements of the Standard Model actually consist of. Gravitational accelerators are the safest for travelers, since the uniform irradiation of quantum gravitons equally accelerates a spacecraft or other objects.

The most effective way to achieve the speed of a spacecraft /object close to the speed of light is to directly make the direction of motion of all elementary particles almost co-directional. However, it is currently difficult to say whether it is practically feasible or not.

Photonic engines/accelerators, graviton engines/accelerators, adaptive matter are the ultimate technologies that will be almost impossible to create better.