

УДК 52=111

## THE PROBABILITY OF MULTIVERSE EXISTENCE

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*The multiverse (or meta-universe) is a hypothetical group of multiple separate universes including the universe in which humans live. Together, these universes comprise everything that exists: space, matter, time, energy, the physical laws. The article provides information about the probability of multiverse existence.*

*Мультивсесвіт (або мета-Всесвіт) - це гіпотетична група з декількох різних всесвітів, включаючи всесвіт, в якому живуть люди. Разом ці всесвіти складають все, що існує: простір, матерія, час, енергія, фізичні закони. У статті представлена інформація про ймовірність існування мультивсесвіту.*

There is an opinion that our universe is not alone and simultaneously with it there are parallel Universes and alternative realities. To understand the idea of multiple universes, we first need to determine what we mean when we say "the universe". Our definition of the "universe" has changed many times, for example, when we invented the first telescope, looked into space and learned that the stars do not attach to the sky on nails, but the Earth is not the only one in space. But the universe is much larger than we can see.

Our planet seems to us huge, but on a scale even of the Solar system, our planet looks like a grain of sand compared to our Milky Way galaxy. In the observable part of the universe, several trillion galaxies like ours or even exceeding it in size. It is possible that there can be a huge number of universes, and each of them can operate its own laws of physics.

According to Hawking theory, it may turn out that not everything that falls into black holes is destroyed or lost forever, as was previously thought. The scientist suggested that an object captured by a black hole might appear elsewhere or even in an alternative universe. The existence of alternative stories with black holes suggests that this is possible. If the black hole is large and rotates, it may have a passage to another universe. But you could not go back to our universe.

There is also a theory that all worlds are real and live according to similar scenarios, and some are very similar to ours. So, for each of us in parallel reality tens of lives can live - be born in other countries, realized in different professions.

In favor of the theory of Multiverse says at least one fact. If we analyze the basic physical constants, we can easily find out that they are very precisely "tuned" to the fact that under these conditions life could exist. It is worthwhile to increase nuclear forces - and the stars will burn out too quickly for life to occur and develop. It is worth to reduce them - and the stars will not flare up at all; naturally, life can not exist in this case too. If we increase the gravitational force, our Universe will quickly die in the Great Compression; if it is slightly reduced, it will quickly expand and freeze. In general, in order to create conditions suitable for life in our Universe, dozens of "accidents" that are relevant to world constants were needed. Obviously, our Universe is in many ways in the "zone of life"; very much in it "accurately selected" so that life could be born and exist. Therefore, we will have to draw a conclusion either about the existence of a God who deliberately took care of the fact that our universe turned out the right way or about the existence of billions of parallel universes, many of which are dead. "The universe seems to have known in advance that we will appear."

These theories are only guesses so far, no one can find proofs of the multiverse theory, nor can they refute it. However, this does not give grounds for saying that parallel universes do not exist.

## **References**

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