

## If the universe is finite in space, then what is beyond it?

### Abstract

This article refers to and is at the same time a supplement to the work *The Cold Big Bang Model*, hereafter called MBBR or the basic work, which was printed by the Tribuna Economică publishing house, in the year 2021, with ISBN 987-973-688-429 -0; work is also listed at: <https://bigbangdigitalmodel.com/en/>

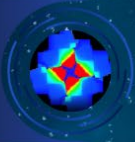
We aim to answer the question in the title based on the principles of MBBR.

### 1. INTRODUCTION

The question makes sense in the geometrical paradigm of space, inherited from ancient Greek mathematicians including Pythagoras, Euclid and Archimedes as well as the Greek astronomers Eudoxus of Knidos and Callippus of Cizic who developed geometric models to explain the apparent motion of the planets. Also the notion of infinity validates the question in the title.

Generations after generations of disciples of these ideas made the notion of *empty and infinite space* settle in the collective consciousness. And how could it not be so long as this concept, *empty and infinite space*, was gradually populated with the wonderful developments of arithmetic continuum mathematics which basically underlie all of our technology.

However, there is the question: *haven't we lost on this path of the development of knowledge certain elements that we will never be able to discover again unless we go back to the zero moment and rethink everything differently?* The question is legitimate because here we seem to have reached an impasse: we have to choose between quantum mechanics and the General relativity, we don't know what dark matter or dark energy is, we have been waiting for the validation of the so-called theory of "*Everything*" for too long who encounter difficulties. We began to imagine that the Cosmos is made up of an infinity of parallel universes, each with its own type of space, more or less similar to ours, a theory that will remain impossible to prove because two universes are truly parallel if there are no interactions between them, in which case any of them does not know about the existence of the other, and if there are interactions between them, it means that they are not independent but parts of the same universe. Let us note that by introducing such concepts we further complicate things; for example, it should be specified what form of geometry of space must be assigned to the Cosmos so that there are parallel universes in it. Are such shortcomings to be accepted just to save the notion of infinite space?



## 2. CONTENTS

In MBBR – *Introduction* we proposed another approach, another zero point from which to rethink everything. As a result I proposed a model of the Universe that is built step by step, in time and space, by a creative Consciousness. A fortiori, at any moment of creation, that Universe is finite and outside of it, in that space of creation, there is nothing left.

For the models of the Universe presented in this paper, the constructed space is finite and we can look at it from the outside and thus visualize its boundary. At the same time we can see that matter cannot cross the space boundary. When the dark matter, driven into motion by quantum gravity, movement carried out on the energy highways, reaches the border, it does not cross it, but still compresses in the cells of the space at the edge, forming compression *protoparticles*; they can break away from the boundary when they become large enough to be moved by gravity, or when new cosmological inflation builds up space further, thus moving their boundary.

The MBBR is intended to be a model that describes how the universe came to be. We believe that the physical universe in which we live is created according to the principles described in this work and as a result it has gone through the stages described here in the creation and evolution of the digital universes analyzed. Thus, just as at any moment of time the digital Universes occupy a finite space, so at any moment of time past present or future, the physical universe has occupied, occupies and will occupy a finite space.

So, to the question: *If the universe is finite then what is beyond it?* our answer is: *Nothing!* And this because all the created and existing space is occupied by this universe and there is no other space that encompasses it and which gives meaning to the expression "...beyond him...".