

## Short Communication about Some Arguments in Cosmology

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### ABSTRACT

I wrote previously:

The space of the universe is infinite but the quantity of matter is finite. Space and time are sets of ur-elements of the negation of the mathematical axiom of choice. For an infinite family of non-empty sets,  $A_1 \times A_2 \times A_3 \dots$  is not an empty set; it can be a set of paths. There is no infinite path. That is why there is a Big Crunch followed by a Big Bang. If the number of particles in the universe is infinite, it is necessarily aleph zero (or more) but there are no aleph zero locations among  $D$  locations,  $D$  Dedekind cardinal.

**Keywords:** “Adib Ben Jebara”

### I. INTRODUCTION

In:

<https://www.ashese.co.uk/ajp-v3-issue-1/about-elementary-particles-of-physics>

I wrote in 2019:

The space of the universe is infinite but the quantity of matter is finite. Space and time are sets of ur-elements of the negation of the mathematical axiom of choice. For an infinite family of non-empty sets, an equivalent of the axiom of choice:  $A_1 \times A_2 \times A_3 \dots$  is not an empty set; it can be a set of paths. There is no infinite path. That is why there is a Big Crunch followed by a Big Bang. If the number of particles in the universe is infinite, it is necessarily aleph zero (or more) but there are no aleph zero locations among  $D$  locations,  $D$  Dedekind cardinal.

End of quotation

It is sure that space disappears because if the Big Band was the effect of gravitation, it would be less catastrophic

The count of time can be a Dedekind cardinal because the size of space is a Dedekind cardinal and the Big Crunch does not occur after a finite time after the Big Bang because otherwise the count of time would not have a chance to be counted by a Dedekind cardinal.

### II. MAIN TEXT

Any finite sequence of moments can be associate to a finite sequence of locations.

There is a sequence of  $n$  urelements which are moments for any integer  $n$  but not for all integers.

The set of space  $U$  is indexed by integers and not the counting of time in the infinite Cartesian product  $U_1 \times U_2 \times \dots \times U_i \times \dots$

There is no conservation of space time like there is conservation of matter energy.

I wrote in “a philosophy for scientists” that what is related to time will disappear with the Big Crunch and I meant closely related.

Mathematical waves which are thoughts are closely related to time and disappear with the Big Crunch.

### III. CONCLUSION

Part of the mathematical sky disappear with the Big Crunch.

A research is needed about the mathematical sky.

Existing religions do not tell something correct about the cosmos.

I am showing what a new philosophy can do as research and against extreme specialization brought by capitalism since 60 years ago.

If someone has a philosophy, it makes him/her good at some of the tasks.

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