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# The limits of the light-speed limit

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## Abstract

We present two limits of the light-speed limit.

keywords: quantum spacetime, light speed, warp drive

## Introduction

1. The light speed also has limits.
2. It appears that the quantum nature of spacetime surpass the light-speed limit.
3. The theory of special relativity states that nothing can travel faster than light [1].
4. The light-speed limit of special relativity does not apply within the most fundamental quantum realm of spacetime.
5. There are at least two limits of (3), as we will see in the following sections.

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# The limits

## The expansion of the universe

6. The stretching of the universe is expanding faster than the speed of light in the sense that two objects A and B would appear to have relative speed  $v > c$ , where  $c$  is the speed of light.

## The warp drive travel

7. *Warp* drive is a mean of *manipulating* the *stretching* of spacetime [2].
8. Due to (7), it can also transport objects from A to B with speed  $v > c$ .
9. In (8), what is really moving is the spacetime itself.
10. In other words, in the warp drive it's the building blocks of spacetime that are moving, not the objects themselves.

## Final Remarks

11. The quantum building blocks of spacetime can move through spacetime faster than light by the quantum (digital) warp drive of spacetime.

## Open Invitation

*Review, add* content, and **co-author** this paper [3, 4]. *Join* the **Open Physics Collaboration**. Send your contribution to mplobo@uft.edu.br.

## Ethical conduct of research

This original work was pre-registered under the OSF Preprints [5], please cite it accordingly [6]. This will ensure that researches are conducted with integrity and intellectual honesty at all times and by all means.

# References

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