

Complementary clarifications to the Einstein-VED theory

This document provides a mathematical basis to understand the concepts of this theory. I intend to expose the most elementary mathematical bases that need to be known to understand this work. This includes basic concepts of algebra and set theory within reach of any person with a minimum of mathematical culture, not with the intention of making a confusing text but so that the rigor of my statements can be verified. That is why it is necessary to briefly explain basic concepts such as the **differential**, the **limit** and the **Lorentz transformations**, which give rise to this extension of Einstein's theory of spatial relativity.

With this basis, my Einstein-VED theory can be better understood.

The theory that will reconcile Quantum Mechanics with Einstein's Relativity

Zenodo Record

h < t < p < s

ORCID

h < t < p < s

License

h < t < p < s

Web

h < t < p < s

$\frac{ds}{dt} \rightarrow 0$. $\frac{ds}{dt} \rightarrow 0$. $\frac{ds}{dt} \rightarrow 0$. $\frac{ds}{dt} \rightarrow 0$.

is locally Minkowskian. 2. There exists a null wave front on the hypersurface

$\frac{\partial \Phi}{\partial x} = 0$ on $\mathcal{N}$.

3. The particle p n is represented

$ds^2 = g_{\mu\nu} dx^\mu dx^\nu = 0$.

That is, these separations between points of $\mathcal{N}$ are light-like. 2.

$ds'^2 = g'_{\mu\nu} dx'^\mu dx'^\nu = ds^2 = 0$.

3. *Proper interval and proper time:* The proper interval between two infinitesimal events is: $d\tau^2 = ds'^2$.

For eventson $\mathcal{N}$ $:$ $d < ds^2 < n$

$dx^\mu \rightarrow 0 \rightarrow \frac{dx^\mu}{dt} \rightarrow 0, \frac{ds'^2}{dt} \rightarrow 0$.

Therefore, the proper time between them tends to zero in the limit. 5. *Physical interpretation:* The part

p_n , as a mode with effective support centered at O

, has its internal dynamics linked to the front. For an observer who intercepts the front at O

, transitions strictly associated with the null surface appear with null proper intervals. This justifies the description

$\mathcal{N}$. *Observations:* The proof is limited to events on the null hypersurface; it does not imply absence of physics

$\mathcal{N}$. *If the front has finite width ϵ > 0*

, the measured intervals will be small but not zero; the analysis is valid in the limit $\epsilon \rightarrow 0$

. *Proper space-time can be modeled as a local fibration of the continuum over the supports U_n*

, with O being a degenerate fiber associated with the null front.