

# Equiponderance Charge-Field of Charge and Curvature of Spacetime

Zygmunt Morawski

Abstract: The equiponderance charge and field of charge – spacetime have been discussed once more. The reasons of the curvature of spacetime have been discussed.

The equiponderance charge – spacetime or more precisely: field of charge – spacetime is implicated by the fact that there are the  $n$ -dimensional spacetimes and  $m$ -pole charges where  $C, m \in N$  ( $m = n$  can be).

The next argument supporting the charge (mass) and space (time) dualism is the fact that the charge as equivalent to mass, curves every space (time).

The space (time) curve is caused by the fact that the charge has two components: charge – mass core and field of charge arising from the core.

This field expands on the whole space (time) or its fragment and naturally interacts with the space (time) by interaction with the loops weaving this space (time).

These loops (circle-like) have next  $n$  hammocks, where  $n \in N$  and on every such a loop there are 1, 2, 3... such hammocks. Every number of hammocks corresponds with an identical number of the poles. On every loop there are many families of the hammocks as the number of all interactions.

There the charges are interacting with loops weaving the space (time) and the charges are equivalent to the space (time).

Time is the candidate for the field of all charges because it is the generalized field of charges and interactions.

According to the Special Relativity (Lorentz's transformation) the space coordinates are the generalized field of charges, because they are equivalent to time.

So we have the dualism:

spacetime  $\leftrightarrow$  generalized superconducting field causing the superconductivity and superfluidity of the spacetime

This dualism is valid for any  $D \in N$  ( $N$  – natural numbers) fractional dimensions (E. Witten) and for  $D \rightarrow \infty$  (Ashtekar's loop dimensions weaving the spacetime).

The rotons in the superfluid liquid are identical with the Ashtekar loops in the generalized superconducting field.

The swirls of the magnetic field in the ether resulting from the movement of electric charges and the swirls of the electric field in the ether resulting from the motion of magnetic charges are next analogies.

The fact that the experimental results in the microworld are repeatable testifies to the complementary character of statistical and classical theories.