the analYtical proof of the matter – antimatter Universe separation under the phase explosion

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The forming of the electromagnetic flux in the singularity [1] in the absence of the charged particles does not result in the flying – apart of the matter because of the its reflection due to the gravitation effects. The real flying – apart appears only as a result of the phase explosion – the simultaneous appearance of the radial electric field  and the Schwinger production of the charged particles outside the singularity by the account of the Poisson equation [2]

, ,  (1)

where , , , , , , .

When approximating  near the singularity by  [3] and insert

 (2)

in equation (1), so after some manipulation one can obtain

, . (3)

This equation allows to be transformed to the following integral form by the ‘constant variation method’

 . (4)

Then for the definite  the absolute value of the radial electric field  increases with . Simultaneously for the definite  the absolute value of the electric field  increases by the decrease of the radius  near the singularity, what demonstrates the charge separation. As this takes place, the matter localizes for the most part on the Universe periphery. Therefore the scenario of the Universe evolution could be connected with matter – antimatter separation [4].

References

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