THE UNIVERSE EXPANSION AS A STABLE DYNAMICAL PHENOMENON under THE STEADY ENERGY FLUX

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The instability of the Planck vacuum in relation to the birth of the charged particles with the mass   is considered, so the particle annihilation can result in the rise of the electromagnetic fields  [1,2]. The initial point of the electromagnetic expansion   is determined by the condition ,

 , , (1)

when a big electromagnetic energy density  concentrated in the region  which makes possible the electromagnetic expansion of the Universe. As a result the constant energy flux  is generated [2]. Because the integral term in (1) has a maximum in some point , the dynamical structure  is formed with two maxima ,  and with a minimum  between them: . In this case, the dimensionless difference of the energy density , that determines the local matter velocity variation during the Universe expansion, can be presented in the form

 . (2)

Then owing to the -decrease in the region  and the -increase in the region  the Universe expansion is retarded or accelerated correspondingly [3]. After the recombination phase at the distance  occurs, the retarding and the accelerating of the matter are retained because they are controlled by the value , which is determined by the electromagnetic part of the energy tensor that constitutes the major part of the matter. One must stress that the expression for the energy flux  can be considered as a result of the differentiation with respect to time the following energy conservation law by the condition 

 ,, (3)

where the matter energy  is balanced out by the negative gravitation energy [4].

References

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