ON A POSSIBLE MANIFESTATION OF THE FEEDBACK COUPLING BETWEEN GEOMETRY AND MATTER IN THE PHENOMENON OF AN ACCELERATING EXPANSION OF THE UNIVERSE

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S u m m a r y

It is shown that the accelerating expansion of the present-day Universe extracted from the observed luminosity of the type Ia supernovae can be explained by quantum theory which takes into account the feedback coupling between geometry and matter (like that in the Mach's principle). At the same time, the accelerating expansion of the Universe is explained by the influence of a small negative cosmological constant. The comparison with the model with positive cosmological constant (dark energy) which has also obtained its theoretical grounds in the structure of a developed formalism is made. Parameters of the Universe in the states with large quantum numbers are calculated.