ON COSMOLOGY OF NONLOCAL GRAVITY

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Despite of numerous significant phenomenological confirmations and many nice theoretical properties, General Relativity (GR) is not final theory of gravity. Problems mainly come from quantum gravity, cosmology and astrophysics. In this talk, we consider some models of nonlocal modificed GR, where nonlocality is presented by an analytic function of the d'Alembert-Beltrami operator. We are interested maily in exact cosmological solutions of the corresponding equations of motion. We pay special attention to the model which exact cosmological solution contains effects that mimic dark matter and dark energy. Here, dark energy is produced by the cosmological constant Lambda. For this solution, computed cosmological parameters are in good agreement with cosmological opservations. Details can be found in our recent papers, see references.

This is joint work with Ivan Dimitrijevic, Zoran Rakic Jelena Stankovic, all from the University of Belgrade, and Alexei S. Koshelev from Universidade de Beira Interior, Covilha, Portugal.

References

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