

# Nonlocal modification of the Einstein theory of gravity

Jelena Stanković

*University of Belgrade, Teacher Education Faculty, Belgrade, SERBIA*  
[jelenagg@gmail.com]

In this contribution we consider model of nonlocal gravity without matter, given by the following action

$$S = \int \left( \frac{R - 2\Lambda}{16\pi G} + C(R + R_0)^m \mathcal{F}(\square)(R + R_0)^m \right) \sqrt{-g} d^4x,$$

where  $\mathcal{F}(\square) = \sum_{n=0}^{\infty} f_n \square^n$  is an analytic function of the d'Alembertian  $\square$ ,  $\Lambda$  is cosmological constant and  $C, R_0, m$  are real constants. The corresponding Einstein equations of motion are derived and presented. Using ansatze we can solve equations of motion and get some cosmological solutions.

This is a joint work with I. Dimitrijević, B. Dragovich, A. S. Koshelev and Z. Rakić.

---