Contribution ID: **32** Type: **not specified**

# Exact thick brane solutions in the model with several scalar fields

*Wednesday 9 September 2015 12:30 (20 minutes)*

The model of scalar matter that permits the formation of a domain wall (thick brane) is studied. The potential of the scalar matter is assumed to have $O(N)$ symmetry softly broken by terms quadratic in fields. One of the fields develops delocalized kink background while others may or may not form localized configurations depending on the relative values of the parameters. We present exact background solutions for arbitrary number of fields and discuss possible applications for model building based on the idea of large extra dimensions.

**Primary author:** NOVIKOV, Oleg (Saint-Petersburg State University, V.A.Fock Department of Theoretical Physics)

**Co-authors:** ANDRIANOV, Alexander (Saint Petersburg State University); ANDRIANOV, Vladimir (Saint-Petersburg State University, V.A.Fock Department of Theoretical Physics)

**Presenter:** NOVIKOV, Oleg (Saint-Petersburg State University, V.A.Fock Department of Theoretical Physics)

**Session Classification:** Session 6