

## RG improvement of multi-field potentials

*Thursday 24 May 2018 16:50 (20 minutes)*

In this talk a new method of renormalisation-group (RG) improvement of effective potentials in models with extended scalar sector is presented. With the use of this method, the RG improved potential can be expressed as the tree-level potential evaluated at a suitably chosen field-dependent scale. This follows from solving the RG equation for the effective potential with a suitably chosen boundary condition. In this talk I introduce the method, discuss its advantages (e.g. possibility to compute vacuum expectation values of the scalar fields which are substantially less scale dependent than the ones following from perturbative one-loop potential), applications (e.g. study of stability of the potential beyond tree level which is impossible without RG improvement) and shortcomings. The presentation is based on JHEP 1803 (2018) 014.

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