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The effective potential method in 5D warped models

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Content :

Warped extra dimensions have been widely used in the last twenty years to address the hierarchy problem and construct phenomenologically viable BSM models. These models require some mechanism to stabilize the size of the extra dimension, which usually produces a light radion.

A common tool used to study the stabilization mechanism is the effective potential of the radion and several approximations to it. This object takes a crucial role in finite temperature calculations, relevant to study possible phase transitions that these models predict in the early universe.

In this talk I will discuss different approximations used to compute the effective potential. I will analyze their exact meaning, what trustable information we can extract from them, and under what circumstances they are a good approximation to the exact solution.

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