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Title: Randall-Sundrum Model and Cosmology

Authors: Jain, Diksha (/jspui/browse?type=author&value=Jain%2C+Diksha)

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Abstract: We, study cosmology of the higher dimensional scenarios, mainly that of the Randall Sundrum (RS) model. We have examined the effective cosmology on the visible brane of RS model by considering the FRWspacetime, with a warped extra dimension. We found that no viable cosmological solution can be obtained in this ansatz, if the radius of extra dimension is taken to be dynamic. In this case, the system becomes over constrained. We also analyze the effects of adding a radion stabilizing potential on the effective 4D cosmology and we found that there is a possibility of generating viable cosmological solutions if this potential is appropriately fine tuned. We also comment on the possibility that this potential might remove the extra constraint that we get when radion is not stabilized.

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