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Massive gravity in higher dimension

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Since Einstein's general relativity or GR cannot explain our universe completely, physicists have tried to find the theory which can describe the dynamic of the universe. One of attempts is modification of GR or modified gravity. We are interested in two models of modified gravity. The first one is the higher dimensional gravity theory which explains the nature by considering GR with extra dimensions, and the second one is massive gravity in which graviton mass is given to GR. In this presentation, we consider the four-dimensional theory which is obtained from the dimensional reduction of the massive gravity in five dimensions. This theory is the one type of massive scalar-tensor theory. Interestingly, we found that the theory resembles the combination of quasi dilaton and mass varying theory of massive gravity. The cosmological models due to this theory are explored.

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