

Classical de Sitter solutions of string theory

mardi 16 novembre 2021 14:01 (44 minutes)

A de Sitter space-time appears in cosmological models as a good approximate description of our universe in the future or in the early times. It is thus natural to try to obtain solutions with such a space-time from a quantum gravity theory such as string theory. This however turns out to be very difficult. In this talk, we focus on obtaining de Sitter solutions in the classical regime of string theory: while constrained, this simple framework offers the possibility of controlled approximations. We work-out new constraints on the existence of such solutions, and look for some in the remaining region of parameter space. We identify all source configurations in 10d type II supergravities for which de Sitter solutions are possible. We find new solutions and study their stability with regard to fluctuations around the background.

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Classification de Session: Talk