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The control issues of KKLT de Sitter construction in string theory

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In this talk, I will introduction the problem of realizing de Sitter space in string compactifications, especially the proposal by Kachru, Kallosh, Linde and Trivedi (KKLT). We analyze to which extent the KKLT proposal for the construction of de Sitter vacua in string theory is quantitatively controlled. I will then explain why, according our recent analysis, extended singularities in the bulk of the compact space appear to generically threaten the construction. In particular, we show that, requiring the curvature to be small in the conifold region, one is generically forced into a regime where the warp factor becomes negative in a large part of the Calabi-Yau orientifold. We call it the "bulk singular problem".

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