

Physics Theory Seminar

Monday, April 17, 2017 / Pupin Hall Theory Center, 8th Floor / 2:10 PM

"Large field inflation from the top down"

I will present recent work that has succeeded in embedding a novel theory for large field inflation - Unwinding Inflation - in string theory. I will review Unwinding Inflation and discuss how the process of brane-flux annihilation, in which D-branes lower flux numbers and therefore the 4D vacuum energy, can be used to embed this model in string theory. This mechanism has recently been extended such that many units of flux can be discharged in a "flux cascade." The flux cascade can be used to substantially reduce vacuum energy and

give rise to 60 efolds of inflation. The role of the inflaton is played by the position of a brane moving many times over a compact internal dimension and can naturally achieve super-Planckian field excursions.



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