

Theory Seminar

Monday, November 16, 2009 2:10 PM 831 Pupin Hall

Approaches to Understanding Inflation: Strings Models and Axions

Although the observational evidence for cosmological inflation is growing, the physical mechanism behind it is still unknown. In part this is because inflation probably occurred at energy scales many orders of magnitude higher than that at man-made or astrophysical particle accelerators. So how can we learn about inflation? How does it constrain microphysical theory? One approach to answering these questions is primarily theoretical: attempting to embed inflation in fundamental theories of quantum gravity, such as string theory. Another approach is primarily observational: looking for signatures left by light fields that existed during inflation, such as isocurvature fluctuations from the QCD-axion. In this talk I discuss work on these two approaches.



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