

High Energy Physics - Theory

Multi-Stream Inflation: Bifurcations and Recombinations in the Multiverse

Yi Wang

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In this Letter, we briefly review the multi-stream inflation scenario, and discuss its implications in the string theory landscape and the inflationary multiverse. In multi-stream inflation, the inflation trajectory encounters bifurcations. If these bifurcations are in the observable stage of inflation, then interesting observational effects can take place, such as domain fences, non-Gaussianities, features and asymmetries in the CMB. On the other hand, if the bifurcation takes place in the eternal stage of inflation, it provides an alternative creation mechanism of bubbles universes in eternal inflation, as well as a mechanism to locally terminate eternal inflation, which reduces the measure of eternal inflation.

Comments: 4 pages, 4 figures, invited essay for the Journal of Cosmology; v2: note added

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