

Abstract

Recently we introduced and analyzed a setup for inflationary models based on the theory of matrix valued scalar fields with a generic quartic potential, M-flation. In this work we study the landscape of various inflationary models arising from M-flation. After discussing the classical landscape of the theory we study the possibility of transition among various inflationary models appearing at different points on the landscape, mapping the “quantum landscape” of M-flation. As specific examples, we study some two-field inflationary models arising from this theory in the landscape.