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D-term chaotic inflation in supergravity and leptogenesis

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Abstract

We present a simple model of *D*-term dominated chaotic inflation in supergravity. The *F*-flat direction present in this model is lifted by the dominant *D*-term, which leads to chaotic inflation and subsequent reheating. No cosmic string is formed after inflation because the $U(1)$ gauge symmetry is broken during inflation. The leptogenesis scenario via the inflaton decay in our *D*-term chaotic inflation scenario is also discussed.