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## Near-inflection point inflation and production of dark matter during reheating.

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We study slow roll single field inflationary scenario and the production of non-thermal fermionic dark matter, together with standard model Higgs, during reheating. For the inflationary scenario, we have considered two models of polynomial potential – one is symmetric about the origin and the other one is not. We fix the coefficients of the potential from the current CMB data from PLANCK/BICEP. Next, we explore the allowed parameter space of the coupling ( $y_\chi$ ) with inflaton and mass ( $m_\chi$ ) of dark matter particles ( $\chi$ ) produced during reheating and satisfying CMB and several other cosmological constraints.

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