Abstract Submitted
for the TSF07 Meeting of
The American Physical Society

Reheating of the universe after inflation with f(phi)R gravity YUKI WATANABE, Department of Physics, University of Texas, Austin, EIICHIRO KOMATSU, Department of Astronomy, University of Texas, Austin — We show that reheating of the universe occurs spontaneously in a broad class of inflation models with $f(\phi)R$ gravity (ϕ is inflaton). The model does not require explicit couplings between ϕ and bosonic or fermionic matter fields. The couplings arise spontaneously when ϕ settles in the vacuum expectation value (vev) and oscillates, with coupling constants given by derivatives of $f(\phi)$ at the vev and the mass of resulting bosonic or fermionic fields. This mechanism allows inflaton quanta to decay into any fields which are not conformally invariant in $f(\phi)R$ gravity theories.

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Date submitted: 28 Sep 2007 Electronic form version 1.4