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Warm Inflation and Its Observational Constraints[1] MIGUEL A. CORREA, University of Notre Dame, MAYUKH R. GANGOPADHYAY, Jamia Millia Islamia University, GRANT J. MATHEWS, University of Notre Dame — The theory of primordial inflation has been highly successful in resolving theoretical difficulties, as well as having its general predictions confirmed by observations. However, higher precision measurements of the CMB now disfavor many potentials that specify the behavior of the expansion. One scenario of interest is warm inflation, which contrasts itself from standard inflation by having friction (i.e. the inflaton converting its energy into radiation) during the expansion. This scenario provides a mechanism to gradually transition to a radiation dominated universe. I will show how warm inflation, with a linear dissipation, changes which potentials are allowed by CMB data. In the case of warm natural inflation, the symmetry breaking scale can now remain below the Planck energy.

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