Abstract Submitted
for the APR10 Meeting of
The American Physical Society

Supersymmetric Hybrid Inflation Redux MANSOOR UR REHMAN, QAISAR SHAFI, JOSHUA R. WICKMAN, Bartol Research Institute, Department of Physics and Astronomy, University of Delaware — We discuss the important role played during inflation by one of the soft supersymmetry breaking terms in the inflationary potential of supersymmetric hybrid inflation models. With minimal Kahler potential, the inclusion of this term allows the prediction for the scalar spectral index to agree with the value $n_s = 0.963^{+0.014}{}_{-0.015}$ found by WMAP5. In the absence of this soft term, and by taking into account only radiative and supergravity corrections, it is well known that $n_s \geq 0.985$. This same soft term has previously been shown to play a key role in resolving the MSSM μ problem. The tensor to scalar ratio r is quite small in these models, taking on values $r \leq 10^{-5}$ in the WMAP5 2σ range of n_s.

Mansoor Ur Rehman
University of Delaware

Date submitted: 25 Oct 2009 Electronic form version 1.4