ABSTRACT

We illustrate how the non-minimal coupling $\xi \phi R^2$ between the inflaton and the Ricci scalar affects predictions of single field inflation models in Palatini formalism. To transition radiation dominated era, the inflaton field $\phi$ must interact to matter fields at the end of inflation. Interactions of the inflaton with other fields lead to radiative corrections to the inflationary potential. These radiative corrections can be explained at leading order by Coleman-Weinberg (CW) one-loop corrections. In this talk, using two different prescriptions debated in the literature, the effect of radiative corrections to the potential owing to the coupling of the inflaton to bosons in Prescription I and couplings of the inflaton to bosons and fermions in Prescription II have been examined. We analyze the range of these coupling parameter values $\kappa$ for which the spectral index $n_s$ and the tensor-to-scalar ratio $r$ are compatible with the data taken into account to the Keck Array/BICEP2 and Planck collaborations.