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Constraining inflaton coupling from CMB in different inflation models

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This talk focusses on constraining the inflaton couplings and reheating temperature by the CMB data in different inflation models. It has been pointed out that within a given inflation model, it is possible to "measure" the inflaton coupling from CMB. The models parameters can be related to the observable CMB data by the reheating parameters. Using the Planck 2018 data, we give constraints to the inflaton couplings and the reheating temperature in three inflation models. In these models there exist regions where it is possible to give analytic relations between the inflaton couplings and the spectral index. Besides, we find that in a specific model one can impose a lower (or upper) bound on the couplings only using the spectral index, even if the tensor-to-scalar ratio is never measured.

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