

SEMINARIO DEL DEPARTAMENTO DE FÍSICA TEÓRICA

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Testing Inflation with Planck Data

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Abstract: The main predictions of the general inflationary paradigm are consistent with high-precision cosmological measurements of the Cosmic Microwave Background (CMB) by the WMAP satellite. However a vast number of different inflationary models has been formulated, and we are still far from being able to select the right scenario among the many proposals. In order to achieve this goal, new information needs to be extracted from the data. In this respect, the study of non-Gaussian features in the CMB constitutes a very promising approach. During the talk, I will firstly review the inflationary predictions on primordial non-Gaussianity, and show how to link these predictions to CMB observations. I will then present a recently developed estimation method that allows to extend previous non-Gaussian CMB analyses to a larger set of models. I will finally show how this technique, combined with high precision Planck data, will allow to significantly expand the current space of non-Gaussian parameters, and to improve on present WMAP constraints for primordial non-Gaussianity.