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CMB POLARIZATION MEASUREMENTS WITH THE BOOMERANG EXPERIMENT

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The Cosmic Microwave Background is linearly polarized due to physical

processes happening at recombination. Additional polarization could have been imprinted in the CMB by primordial gravitational waves generated during inflation. Here we report on the recent measurement of CMB polarization with the BOOMERanG-B03 balloon-borne experiment. While the sensitivity of B03 is not enough to test the inflationary prediction, B03 has indeed detected linear polarization in the CMB, and has produced sensitive maps of the microwave sky at 145, 245 and 345 GHz, with a resolution of 10'. Moreover B03 has been the first field test of polarization sensitive bolometers and of the related polarimetric techniques, which can be replicated in large arrays to go after the inflationary polarization. In this talk I'll describe the technique and the results of B03, and shortly review forthcoming activities in this very active field.