

Bolometric Detectors for the Planck Surveyor

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Abstract

The High Frequency Instrument on the NASA/ESA Planck Surveyor, scheduled for launch in 2007, will map the entire sky in 6 frequency bands ranging from 100 GHz to 857 GHz to probe Cosmic Microwave Background (CMB) anisotropy and polarization with angular resolution ranging from $9'$ to $5'$. The HFI focal plane will contain 48 silicon nitride micromesh bolometers operating from a 100 mK heat sink. Four detectors in each of the 6 bands will detect unpolarized radiation. An additional 4 pairs of detectors will provide sensitivity to linear polarization of emission at 143, 217 and 353 GHz. We report on the development and characterization of these detectors before delivery to the European HFI consortium.