

CMB experiments at mm and submm wavelengths

Paul Richards

University of California, Berkeley

The enormous scientific rewards from measurements of the spectrum and anisotropy of the Cosmic Microwave Background have strongly stimulated the development of sensitive detector systems for mm and submm wavelengths. These included systems based on bolometric direct detectors, HEMT amplifiers and even SIS mixers. Examples will be described of small experiments that developed and evaluated detector systems, which later enabled the acquisition of large precise data sets from space observations. Modern, large format bolometric focal planes for photometry of the CMB will be described and compared with the sensitivity possible from ideal coherent receivers.