

Recent Development of Far Infrared and Submillimeter Detectors for Astronomical and Astrophysical Observations

by

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Abstract

Ge:Ga photoconductors and Si_3N_4 micromesh bolometer are the most successful detectors in the field of far infrared astronomy. In this report, the recent advances in photon detectors for direct detection at far infrared(FIR), submillimeter and millimeter wavelengths are reviewed. Quantum Hall and quantum dot FIR photodetectors, superconductor-insulator-superconductor(SIS) photon detectors, superconducting hot-electron bolometers(HEB's), GaAs photoconductors, Ge and GaAs blocked impurity band(BIB) detectors are described.

Keywords: Ge:Ga photoconductor, Si_3N_4 micromesh bolometer, Far infrared, Submillimeter, Astronomy, Quantum Hall, Quantum dot, SIS, HEB, GaAs photoconductor, Ge BIB, GaAs BIB, Blocked impurity band detector

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