THz superconducting mixers and astronomical applications

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I. Abstract

The terahertz (THz) regime, which has long been known of rich scientific opportunities, remains the last frequency window to be fully explored in astronomy. One difficulty is that the earth's atmosphere has significant absorption for THz signals, while the other is the technical challenge of developing sensitive coherent and incoherent detectors. With outstanding sensitivity, superconducting mixers and detectors are playing an increasingly important role in THz astronomy. In this paper, the latest results for the THz superconducting mixers and detectors developed at Purple Mountain Observatory (PMO), CAS, are presented.