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Title: Recent developments in millimeter and submillimeter waves and the applications in remote sensing

Abstract:

Millimeter and submillimeter-wave observations provide important informations for the study of atmospheric chemistry and astrochemis (molecular clouds, stars formation, galactic study, comets and cosmo But these observations depend strongly on instrumentation technique on the site quality. New techniques or higher detector performances r unprecedented observations and sometimes, the observational needs new developments of detector technologies, for example, Schottky pl diodes, wideband very low noise superconducting junctions (SIS mixe because its high sensitivity in heterodyne detection in the millimeter submillimeter wave range (100 GHz - 700 GHz), HEB (Hot Electron Bolometer) mixers developed for application in THz observations. Sol sources for most of the applications at millimeter or sub-millimeter wavelengths are now in progress : planar components (HBV), integra circuits (FFO) or new techniques (laser mixing, THz cascade lasers). new large projects as SOFIA, HERSCHEL-HIFI, ALMA for astronomy (g and solar system) ; EOS-MLS, MHS, MEGHA-TROPIQUES-SAPHIR for aeronomy and meteorology, and other projects for the planetary scie (ROSETTA-MIRO, Mars orbiters ,), will benefit of these new develop

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