# Abstracts

## NbN hot electron bolometric mixer with intrinsic receiver noise temperature of less than five times the quantum noise limit

*E. Gerecht, C.F. Musante, Y. Zhuang, M. Ji, K.S. Yngvesson, T. Goyette and J. Waldman. "NbN hot electron bolometric mixer with intrinsic receiver noise temperature of less than five times the quantum noise limit." 2000 MTT-S International Microwave Symposium Digest 00.2 (2000 Vol. II [MWSYM]): 1007-1010.*

In recent years, improvements in device development and quasi-optical coupling techniques utilizing planar antennas have led to a significant achievement in low noise receivers for the edges of the submillimeter frequency regime. Hot electron bolometric (HEB) receivers made of thin superconducting films such as NbN have produced a viable option for instruments designed to measure the molecular spectra for astronomical applications as well as in remote sensing of the atmosphere in the THz regime. This paper describes an NbN HEB mixer with intrinsic DSB receiver noise temperature of at most five times the quantum noise limit at frequencies as high as 2.24 THz.

❑ Return to main document.