# Abstracts

## NbN hot electron bolometric mixers-a new technology for low-noise THz receivers

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New advances in hot electron bolometer (HEB) mixers have recently resulted in record-low receiver noise temperatures at terahertz frequencies. We have developed quasi-optically coupled NbN HEB mixers and measured noise temperatures up to 2.24 THz, as described in this paper. We project the anticipated future performance of such receivers to have even lower noise temperature and local-oscillator power requirement as well as wider gain and noise bandwidths. We introduce a proposal for integrated focal plane arrays of HEB mixers that will further increase the detection speed of terahertz systems.

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