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Title: Development of Bolometers Matrices with NbSi TES Sensors for the Study of Cosmic Microwave Radiation (CMB)

Abstract (less than 10 lines):

We report results on NbxSi1-x transition edge sensor (TES) bolometers fabricated on 2-inch silicon wafer, using electron-beam coevaporation and photolithography techniques. The superconducting transition temperature can be adjusted by the Nb concentration x and the thickness of the NbxSi1-x thin film. For the samples described here the transition temperature is close to 100 mK. We have measured I-V characteristic curves and the resistance versus temperature of several sensors using different bias currents, ranging from 200 nA to 40 micro-A. The electron-phonon coupling coefficient is calculated herein and the noise spectra as well as the overall performance of the bolometer sensors are measured using dc-SQUID electronics.