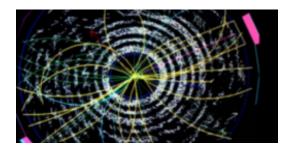
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Fabrication of antenna-coupled KID array for Cosmic Microwave Background detection

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Microwave Kinetic Inductance Detectors (MKIDs) have become an attractive alternative to traditional Transition Edge Sensor (TES) bolometers in the sub-mm and mm observing community due to its innate frequency multiplexing capabilities and simple lithographic processes. These advantages make MKIDs a viable option for the O(100,000) detectors needed for the upcoming Cosmic Microwave Background - Stage 4 (CMB-S4) experiment. We have fabricated dual polarization antenna-coupled MKID array in the ~100GHz band optimized for CMB detection. The Al KIDs are made from evaporating Al on a high resistivity silicon substrate. The microstrip coupling the antenna and KID consists of growing Si3N4 between two layers of evaporated Nb. In addition, we present the preliminary characterization of these devices with a cryogenic blackbody load.

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