

Development of antenna-coupled KIDs for large cameras

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Abstract— Large-scale arrays of Microwave Kinetic Inductance Detectors (MKIDs) are attractive detector candidates for imaging instruments in sub millimeter-wave telescopes such as APEX. We are developing antenna-coupled KIDs. Our detector design employs a quarter-wave coplanar waveguide (CPW) resonator. One end of the resonator is coupled via a capacitor to the readout transmission line and the other end is shorted to ground. A twin-slot antenna transfers incident on the shorted end. The radiation is concentrated and focused onto antenna by means of a lens glued to the back-side of the KID sample. We present the last developments of the detector design and recent results of the detector performance