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Fabrication of mushroom-type gold absorber for transition edge X-ray detectors

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Absorber is a key element for superconducting transition edge X-ray detectors. We fabricated thick gold absorber with an overhanging structure. A Ti/Au seed layer was made by magnetron-sputtering deposition, and then several micrometers-thick gold absorber was made by electroplating. The resistivity of the gold absorber was determined from four-terminal measurements. The absorber was integrated with a transition edge detector. The heat capacity of the absorber was evaluated from the measurements of the effective time constant of the TES detector.

Less than 5 years of experience since completion of Ph.D

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