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Properties of Holmium Implanted Gold Films and a YSiAs Absorbers in TES Microcalorimeters for Holmium Neutrino Mass Experiment¹ KRISHNA PRASAI, University of Miami, Miami, FL, USA, E. ALAVES, University and CFNUL, Lisbon, Portugal, D. BAGLIANI, University of Genoa and INFN, Genoa, Italy, N. BARRADAS, University and CFNUL, Lisbon, Portugal, M. BIASOTTI, University of Genoa and INFN, Genoa, Italy, M. GALEAZZI, University of Miami, Miami, FL, USA, F. GATTI, University of Genoa and INFN, Genoa, Italy, P. MANFRINETTI, M.R. GOMES, University and CFNUL, Lisbon, Portugal, Y. UPRETY, S. YANARDAG, University of Miami, Miami, FL, USA — The electron capture decay of Ho-163 can be used for the direct measurement of the electron neutrino mass with Transition Edge Sensor (TES) microcalorimeters. A major requirement for a microcalorimetric holmium experiment is to embed the source in the detector absorber. A logical choice would be to implant the isotope into a regular gold absorber, assuming that it does not change the absorber properties. As an alternate option, since most chemical processes to extract the Ho-163 isotope after fabrication involve yttrium based compounds, it could be possible to use a yttrium compound as absorber, rather than just as an intermediate step. We have studied the properties of gold films implanted with holmium and erbium (which is present due to source manufacturing) and Yttrium silicide (YSi) in the working temperature range of the TES microcalorimeters (90-300 mK). In this paper we present the results of our investigation

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