

Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

H_{c2} as a probe for multiband superconductivity in LAO/STO¹

JONATHAN EDGE, Nordita, ALEXANDER BALATSKY, Nordita and Los Alamos — We investigate the temperature dependence of the upper critical field H_{c2} as a tool to probe the possible presence of multiband superconductivity at the interface of LAO/STO. The behaviour of H_{c2} can clearly indicate two-band superconductivity through its nontrivial temperature dependence. For the disorder scattering dominated two-dimensional LAO/STO interface we find a characteristic non-monotonic curvature of the $H_{c2}(T)$. We also analyse the H_{c2} for multiband bulk STO and find similar behaviour.

¹US: DOE, VR621-2012-2983, ERC-DM-321031, Nordita

Jonathan Edge
Nordita

Date submitted: 14 Nov 2013

Electronic form version 1.4