$H_{c2}$ as a probe for multiband superconductivity in LAO/STO\textsuperscript{1}
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.

\textsuperscript{1}US: DOE, VR621-2012-2983, ERC-DM-321031, Nordita