Magnetism near Vortex Cores of Cuprate Superconductors J.C. LEE, UC Santa Barbara, K. PRUDCHENKO, USC, B. LAUNSPACH, San Jose State University, E.J. RUIZ, Lam Research, C. BOEKEMA, San Jose State University — We examined muon-spin-resonance (μSR) vortex data of Bi2212, Tl2223, and YBCO to search for antiferromagnetism (AF) near the vortex cores. [1] Field distributions were obtained from μSR data using Maximum-Entropy analysis. The grain-boundary and vortex signals were fitted by Gaussian and Lorentzian curves, the latter suggestive of extra AF ordering. Narrow Gaussians fit the grainboundary signals well, independent of temperature. For T < 0.4T_c, Lorentzians fit much better than Gaussians on the high-field side associated with the vortex core. Such results suggest that magnetism exists near the vortex cores. [1,2] The field dependence of the YBCO AF Lorentzian width is discussed. An AF presence near vortex cores supports theories that predict spin ordering for cuprate superconductivity. Research supported by REU-NSF, WiSE@SJSU & SJSU College of Science. [1] J. Lee et al, J Appl Phys 95 (2004) 6906, and Virtual J Appl of Superconductivity, June 2004 V6 Issue11; K Prudchenko et al, www.jyi.org/volumes/volume10/issue6/articles/prudchenko.html [2] C. Boekema et al, Int J Modern Phys B17 (2003) 3436.