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Magnetism in EuBCO and YBCO vortex states near and below T_c R. SCHWARTZ, San Jose State University, M.C. BROWNE, SLAC National Accelerator Laboratory, C. BOEKEMA, San Jose State University — By means of MaxEnt-μSR [1] analysis, we investigate transverse field μSR data [2] of $EuBa_2Cu_3O_{7-\delta}$gEuBCO; T_c = 93 K). Our focus is on a temperature interval near $T_c$to search for precursor effects, [3] and for predicted [4a] pseudogap loop currents above *and* below T_c, already observed [4b] above T_c for GdBCO. Further, we continue to study the field-direction dependence of the predicted [5a] and observed [5b] antiferromagnetism (AF) below $0.5T_c$ for the vortex states in c-axis-oriented YBCO. This AF in and near the vortex cores is likely three-dimensional. In sum, magnetic roots of cuprate superconductivity are well plausible. Research is supported by LANL-DOE, REU-NSF and AFC.

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C. Boekema
San Jose State University

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