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**Local Structure in Magnetically Phase Separated Perovskite $SrCoO_{3-y}$**[1] Z.H. ZHU, F.J. RUECKERT, J.I. BUDNICK, W.A. HINES, B.O. WELLS, University of Connecticut, CH. NIEDERMAYER, Laboratory for Neutron Scattering, Paul Scherrer Institut, B. DABROWSKI, Northern Illinois University — Magnetic phase separation has recently been found in the oxygen deficient perovskite SrCoOx ($2.88 \leq x \leq 3$). Samples with appropriate oxygen concentration show two component magnetic behavior while maintaining a single crystallographic phase. The two magnetic phases match those found in $SrCoO_{2.88}$ and $SrCoO_3$ with Tc = 220 K and 280 K, respectively. Muon Spin Rotation ($\mu$ SR) has been used to explore the local spin structures and phase behavior of these cobaltates. The data reveal the possible existence of spatially separated magnetic region and two true phase transitions.

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