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**Two magnetically distinct environments in Cu-O planes in an underdoped High-Tc cuprate: La(2-x)Sr(x)CuO(4) seen via  $^{17}\text{O}$  NMR**  
ROBERT SMITH, PHILIP KUHNS, ARNEIL REYES, GREG BOEBINGER, NHMFL/FSU, TAKASHI IMAI, McMaster University, K. HIROTA, University of Tokyo — Using high magnetic fields (30T) we investigate the normal state of the underdoped superconductor La(1.885)Sr(0.115)CuO(4) using  $^{17}\text{O}$  NMR. The high field  $^{17}\text{O}$  NMR spectrum shows evidence for two distinct planar oxygen signals,  $^{17}\text{O}(\text{p1})$  and  $^{17}\text{O}(\text{p2})$ . The Knight Shift of  $^{17}\text{O}(\text{p1})$  drops linearly with decreasing temperature to zero near 60K, twice the zero field  $T_C$ .  $^{17}\text{O}(\text{p2})$  Knight Shift drops non-linearly to zero below 40K. The  $^{17}\text{O}(\text{p2})$  line broadens with decreasing temperature while  $^{17}\text{O}(\text{p1})$  slightly narrows. Comparing the Knight Shift and linewidth of the two lines suggests very different magnetic environments.

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