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Charge distribution on planar oxygens in an underdoped High-Tc cuprate: $\text{La}(2-x)\text{Sr}(x)\text{CuO}(4)$ via ^{17}O NMR. GREG BOEBINGER, ROBERT SMITH, ARNEIL REYES, PHILIP KUHNS, NHMFL/FSU, TAKASHI IMAI, McMaster University/CIFAR, P. M. SINGER, Schlumberger-Doll Research Center, F.C. CHOU, National Taiwan University, K. HIROTA, U. Tokyo, Dept. of Advanced Material Science, Inst. for Solid State Physics, M. TAKABA, T. KAKESHITA, U. Tokyo, Dept. of Advanced Material Science, H. EISAKI, U. Tokyo, Dept. of Advanced Material Science, National Institute of Advanced Industrial Science and Technology, S. UCHIDA, U. Tokyo, Dept. of Advanced Material Science — We use high magnetic fields ($\sim 30\text{T}$) to suppress the superconducting T_c of $\text{La}(2-x)\text{Sr}(x)\text{CuO}(4)$ (LSCO) in order to investigate the normal state NMR properties at low temperatures. We use ^{17}O NMR as a local probe of the electron density on the planar oxygens. ^{17}O Knight shift and linewidths were obtained over a wide temperature range in the normal state for under-doped ($x=0.05, 0.115$) and optimally doped ($x=0.15$) LSCO. Our results will be discussed in the context of recent reports of charge segregation on the planar oxygens (from STM experiments) and magnetization and neutron scattering experiments showing glassy behavior and incommensurate spin-waves in LSCO.

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