

Hall Effect in Electron-doped $\text{Sr}_{0.9}\text{La}_{0.1}\text{CuO}_2$ Superconductors

Hyun-Jung Kim^a, W. N. Kang^a, Kijoon H. P. Kim^a, Sung-Ik Lee^a,
S. Karimoto^b, and M. Naito^b

^a *National Creative Research Initiative Center for Superconductivity, Department of Physics, Pohang University of Science and Technology, Pohang 790-784, Korea*

^b *NTT Basic Research Laboratories, 3-1, Wakamiya, Morinosato, Atsugi-shi, Kanagawa 243-0198, Japan*

We have measured the Hall effect in infinite-layer $\text{Sr}_{0.9}\text{La}_{0.1}\text{CuO}_2$ thin films grown by molecular beam epitaxy. We do not observe T^2 dependence of the cotangent of Hall angle, which is commonly observed in other cuprate High-Tc superconductors. Therefore, this result cannot be interpreted within two different scattering mechanism based on charge-spin separation theory. The mixed-state Hall effect shows no sign anomaly, implying that the hydrodynamic contribution of vortex core is negligibly small.

keywords : Hall effect, infinite-layer, thin film