

# Magnetic Field Dependence Of Anisotropy Of In-plane Angular Magnetoresistance Of Electron-doped $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2$ Thin Films

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**Abstract.** We studied the normal state magnetoresistance of underdoped superconducting epitaxial  $\text{Sr}_{1-x}\text{La}_x\text{CuO}_2$  thin films by applying a high magnetic field up to 22 T parallel to the  $\text{CuO}_2$  planes and by varying the orientation of a field of given intensity in order to probe the underlying spin system. This infinite layer compound which has the simplest structure of all the cuprates presents a monotonic negative in-plane magnetoresistance with an anisotropic angular dependence which depends on the doping level [1] and on the field intensity [2]. Angular dependence of the in-plane magnetoresistance at highest magnetic fields is the same for films with different doping levels [2]. We compare our observations with the corresponding ones for the other electron-doped family  $\text{Ln}_{2-x}\text{Ce}_x\text{CuO}_4$  ( $\text{Ln}=\text{Nd}, \text{Pr}, \text{La}$ ) and we attribute them to a manifestation of antiferromagnetism which appears to be only due to spins in the  $\text{CuO}_2$  planes.

## REFERENCES

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2. Jovanović, V. P., Raffy H., Remenyi G., Li Z. Z., Monceau P., to be published.