

Abstract Submitted
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Impurity effect on nuclear magnetic relaxation due to orbital hyperfine interaction A. KNIGAVKO, B. MITROVIC, K. V. SAMOKHIN, Physics Department, Brock University, St. Catharines, Canada — We show that the nuclear magnetic relaxation rate $1/T_1$ due to the coupling of nuclear spin to the orbital moment of itinerant electrons is sensitive to impurity scattering in both normal and superconducting states. In the clean case $1/T_1$ diverges because of the contribution from distant currents, while in the dirty case its magnitude is controlled by the parameter $k_F l$, where l is the electron mean free path. In the superconducting state temperature dependence of $1/T_1$ becomes significant.

Anton Knigavko
Brock University, St. Catharines, Canada

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