

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Small T_1^{-1} peak near T_c in unconventional BCS superconductors

DAVID PARKER, MPIPKS, STEPHAN HAAS, USC Dept. of Physics and Astronomy — It is usually believed that a coherence peak just below T_c in the nuclear spin lattice relaxation rate T_1^{-1} in superconducting materials is a signature of conventional s-wave pairing. We demonstrate that **any** unconventional superconductor obeying BCS pure-case weak-coupling theory should show a small T_1^{-1} coherence peak near T_c , generally with a height between 3 and 15 percent greater than the value at T_c . It is due to impurity scattering, magnetic effects, gap anisotropy and other effects that this peak has not been commonly observed.

David Parker
MPIPKS

Date submitted: 28 Nov 2006

Electronic form version 1.4