

Laboratoire Léon Brillouin
SÉMINAIRE

Mardi 05 mars 14h30

CEA-Saclay ;b; ;font color = 'red';LLB ;/font;i/b; Bât 563 p15 (Grand

Resonant Spin Excitations in Iron Based Superconductors

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The iron pnictides have attracted great interest following the discovery of superconductivity up to 50K and because of their superficial similarities with the cuprate superconductors. In both systems, superconductivity emerges when long range antiferromagnetic order is suppressed by doping or pressure. This indicates that spin correlations are intimately connected with superconductivity and may be involved in the pairing mechanism, in contrast to ordinary superconductors where the pairing is provided by phonons. Elastic and inelastic neutron scattering provides a most direct probe of both the long range spin order as well as the strong spin fluctuations remaining when the long range order has been suppressed, allowing detailed studies of how these spin correlations evolve as the superconducting state is approached and entered as a function of doping and temperature.

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