

21COE 物質階層融合科学セミナー
物性コロキウム

日時：7月15日(木) 16:30 - 18:00

場所：理学部 総合研究棟 745号室(大学院講義室)

講師：D. Poilblanc (Universite Paul Sabatier,
Toulouse, France)

題目：Superconductivity in doped spin ladders

Abstract: Superconducting (as well as magnetic & stripe) fluctuations are investigated in Two-leg (and four-leg) doped spin ladders by numerical methods such as Exact Diagonalisations, DMRG or Contractor-Renormalization method [1]. Short-ranged stripe correlations [1] are found in a periodic four-leg ladder in agreement with DMRG results on systems with open boundaries. Competing superconducting fluctuations are also investigated: momentum and frequency dependence of the pairing interaction is studied by numerical techniques [2] supplemented by analytic bosonisation arguments [3] and similarities and differences with the two-dimensional case [3] are outlined. Lastly, the role and the properties of a triplet resonant mode [4] will be discussed.

[1] S. Capponi & D. Poilblanc, Phys. Rev. B 66, 180503 (2002).

[2] D. Poilblanc, D.J. Scalapino & S. Capponi, Phys. Rev. Lett. 91, 137203 (2003).

[3] D. Poilblanc and D.J. Scalapino, Phys. Rev. B 66, 052513 (2002).

[4] D. Poilblanc, E. Orignac, S.W. White & S. Capponi, Phys. Rev. B 69, 220406 (2004)

連絡先：坂井 徹 (217-6440)

16:15 よりコーヒー、紅茶、お菓子を用意します。カップを持ってお集まり下さい。

世話人

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