

Abstract Submitted
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Bose-Einstein Condensation in quasi-one dimensional Ladder materials¹ THIERRY GIAMARCHI, DPMC-MaNEP, University of Geneva, Switzerland, EDMOND ORIGNAC, CNRS UMR, ENS Lyon, France, ROBERTA CITRO, University of Salerno, Italy — Various magnetic systems are made of assemblies of dimers. In such systems it was proposed [1] that a magnetic field can induce a quantum phase transition in the universality class of a Bose-Einstein condensation. Such a transition has been, by now, observed in a variety of dimer systems. Recently, systems such as BPCB [2], where the dimers are organized in quasi-one dimensional ladders have been investigated. This compounds offers an interesting crossover between one dimensional and three dimensional behavior. We build on [1] and [3] to analyze various physical properties of such a system both in the one- and three-dimensional regimes. We focus in particular on the NMR relaxation time properties.

[1] T. Giamarchi and A. M. Tsvelik Phys. Rev. B **59** 11398 (1999).

[2] B. C. Watson et al. Phys. Rev. Lett **86** 5168 (2001).

[3] R. Chitra and T. Giamarchi Phys. Rev. B **55** 5816 (1997)

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Thierry Giamarchi
DPMC-MaNEP, University of Geneva

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