

LIST OF PUBLICATIONS

- **In preparation:**

- **T. Roscilde** and S. Haas
Quantum phase transitions of hard-core bosons in optical superlattices.
- **T. Roscilde**, F. Cinti, A. Cuccoli, and A. Rettori
Chiral and magnetic transitions in weakly coupled frustrated spin chains.
- R. Yu, **T. Roscilde** and S. Haas
Quantum critical behavior of inhomogeneously bond-diluted antiferromagnets.

- **Submitted or in press:**

- Rong Yu, **T. Roscilde**, and S. Haas
Quantum percolation two-dimensional antiferromagnets.
cond-mat/0410041, submitted, 2004.

- **Publications on peer-reviewed journals:**

- **T. Roscilde**, A. Fubini, P. Verrucchi, S. Haas, and V. Tognetti
Studying quantum spin systems through entanglement estimators.
Phys. Rev. Lett. **93**, 167203 (2004).
- **T. Roscilde**, A. Feiguin, A. Chernyshev, S. Liu, and S. Haas
Anisotropy-induced ordering in the quantum $J_1 - J_2$ antiferromagnet
Phys. Rev. Lett. **93**, 017203 (2004).
- L. Capriotti, A. Fubini, **T. Roscilde**, and V. Tognetti
Ising transition in the two-dimensional quantum $J_1 - J_2$ Heisenberg model
Phys. Rev. Lett. **92**, 157202 (2004).
- A. Cuccoli, **T. Roscilde**, P. Verrucchi, and R. Vaia
Field-induced XY behavior in the $S = 1/2$ antiferromagnet on the square lattice
Phys. Rev. B **68**, 060402(R) (2003).
- A. Cuccoli, **T. Roscilde**, P. Verrucchi, and R. Vaia
Detection of XY Behavior in Weakly Anisotropic Quantum Antiferromagnets on the Square Lattice
Phys. Rev. Lett. **90**, 167205 (2003).
- A. Cuccoli, **T. Roscilde**, V. Tognetti, P. Verrucchi, and R. Vaia
Quantum Monte Carlo Study of $S=1/2$ weakly anisotropic antiferromagnets on the square lattice
Phys. Rev. B. **67**, 104414 (2003).
- A. Cuccoli, **T. Roscilde**, V. Tognetti, P. Verrucchi, and R. Vaia
Phase transitions in two-dimensional anisotropic quantum magnets
Eur. Phys. J. B **20**, 55 (2001).
- A. Cuccoli, **T. Roscilde**, V. Tognetti, P. Verrucchi, and R. Vaia
Finite-temperature ordering in two-dimensional magnets
Phys. Rev. B **62**, 3771 (2000).

- **Publications on volumes and collections:**

- **T. Roscilde**, A. Fubini, P. Verrucchi, S. Haas, and V. Tognetti
Entanglement in quantum-critical spin systems
In *Quantum computation: Solid State Systems*, edited by P. Delsing, C. Granata, Y. Pashkin, B. Ruggiero, and P. Silvestrini (Kluwer, Dordrecht, in press, 2004).

- **Publications on peer-reviewed conference proceedings:**

- A. Cuccoli, **T. Roscilde**, R. Vaia, and P. Verrucchi
XY behaviour of the 2D $S=1/2$ antiferromagnet in a field
J. Magn. Magn. Mat. **272**, 884 (2004).

- A. Cuccoli, **T. Roscilde**, V. Tognetti, R. Vaia, and P. Verrucchi
Signatures of XY behaviour in 2D weakly anisotropic antiferromagnets
J. Magn. Magn. Mat. **272**, Supplement 1, E651 (2004).
- A. Cuccoli, **T. Roscilde**, V. Tognetti, P. Verrucchi, and R. Vaia
Anisotropy and Ising-like Transition of the $S=5/2$ Two-Dimensional Heisenberg Antiferromagnet Mn-Formate di-Urea
J. Appl. Phys. **93**, 7637 (2003).
- A. Cuccoli, **T. Roscilde**, V. Tognetti, P. Verrucchi, and R. Vaia
Quantum Monte Carlo simulation of two-dimensional $S = 1/2$ antiferromagnets with very weak easy-plane anisotropy
J. Appl. Phys. **93**, 7640 (2003).
- **T. Roscilde**
Intrinsic and field-induced XY-like behaviour in two-dimensional quantum antiferromagnets
Acta Phys. Pol. B **34**, 1497 (2003).
- **T. Roscilde**, A. Cuccoli, and P. Verrucchi
Phase transitions in anisotropic two-dimensional quantum antiferromagnets
phys. stat. sol. (b) **236**, 433 (2003).
- A. Cuccoli, **T. Roscilde**, V. Tognetti, P. Verrucchi, and R. Vaia
Thermodynamics of the two-dimensional easy-axis quantum antiferromagnet
J. Magn. Magn. Mater. **226**, 562 (2001).
- A. Cuccoli, **T. Roscilde**, V. Tognetti, P. Verrucchi, R. Vaia
The two-dimensional quantum Heisenberg antiferromagnet with Ising-like anisotropy
Braz. J. Phys. **30**, 697 (2000).