

## Publication list Matthias Troyer

### Theses

- [T1] M. Troyer  
*Monte Carlo simulation of the one-dimensional  $t$ - $J$ - $J'$  model*,  
Diploma thesis, ETH Zürich (1991).
- [T2] M. Troyer  
*Numerical simulation of strongly correlated fermions in low dimensional systems*,  
Ph.D. thesis, ETH Zürich, (1994).

### Book chapters

- [B1] S. Trebst and M. Troyer  
*Optimized Ensembles for Classical and Quantum Systems*  
in *Computer Simulations in Condensed Matter: Systems: From Materials to Chemical Biology. Volume 1*  
edited by M. Ferrario, G. Ciccotti and K. Binder (Springer Verlag 2006)
- [B2] F.F. Assaad and M. Troyer  
*The Quantum Monte Carlo Method*  
in *Handbook of Magnetism and Advanced Magnetic Materials Vol. 1* (John Wiley & Sons, 2007)
- [B3] Claudio Castelnovo, Simon Trebst, Matthias Troyer  
*Topological Order and Quantum Criticality*  
in "Understanding Quantum Phase Transitions", edited by Lincoln D. Carr (CRC Press / Taylor & Francis, 2010)
- [B4] Philipp Werner and Matthias Troyer  
*Cluster Monte Carlo Algorithms for Dissipative Quantum Phase Transitions*  
in "Understanding Quantum Phase Transitions", edited by Lincoln D. Carr (CRC Press / Taylor & Francis, 2010)

### Peer-reviewed publications

- [1] Matthias Troyer  
*Monte Carlo simulation of the one-dimensional  $t$ - $J$ - $J'$  model*  
*Helvetica Physica Acta* **64**, 700 (1991).
- [2] Matthias Troyer and Diethelm Würtz  
*Ferromagnetism of the Kondo lattice model: A quantum Monte Carlo study*  
*Phys. Rev. B* **47**, 2886 (1993).
- [3] Matthias Troyer, Hirokazu Tsunetsugu, T.M. Rice, Jose Riera and Elbio Dagotto  
*Spin gap and superconductivity in the  $t$ - $J$  model with Coulomb repulsion*,  
*Phys. Rev. B* **48**, 4002 (1993).
- [4] Hirokazu Tsunetsugu, Matthias Troyer and T.M. Rice  
*Pairing and Excitation Spectrum in doped  $t$ - $J$  Ladders*  
*Phys. Rev. B* **49**, 16078 (1994)
- [5] Matthias Troyer, Hirokazu Tsunetsugu and Diethelm Würtz  
*Thermodynamics and spin gap of the Heisenberg ladder calculated by the look-ahead Lanczos algorithm*  
*Phys. Rev. B* **50**, 13515 (1994)
- [6] Hirokazu Tsunetsugu, Matthias Troyer and T.M. Rice  
*Singlet stripe phases in the planar  $t$ - $J$  Model*  
*Phys. Rev. B* **51**, 16456 (1995).
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*Effect of the three-site hopping term on the  $t$ - $J$  model*  
*Phys. Rev. B* **52**, 629 (1995)
- [8] Matthias Troyer, Hirokazu Tsunetsugu and T.M. Rice  
*Properties of lightly doped  $t$ - $J$  two-leg ladders*  
*Phys. Rev. B* **53**, 251 (1996)

- [9] Matthias Troyer, H. Kontani and Kazuo Ueda  
*Phase diagram of 1/5-th depleted Heisenberg model for  $\text{CaV}_4\text{O}_9$*   
Phys. Rev. Lett. **76**, 3822 (1996)
- [10] Beat Frischmuth, Beat Ammon and Matthias Troyer  
*Susceptibility and Low Temperature Thermodynamics of Spin-1/2 Heisenberg Ladders*  
Phys. Rev. B **54**, R3714 (1996)
- [11] Matthias Troyer, M.H. Zhitomirsky and Kazuo Ueda  
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*Critical exponents of the quantum phase transition in a planar antiferromagnet*  
J. Phys. Soc. Jpn. **66**, 2957 (1997)
- [15] Jae-Kwon Kim, Matthias Troyer  
*Low Temperature Behavior and Crossovers of the Square Lattice Quantum Heisenberg Antiferromagnet*  
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- [16] Naokazu Shibata, Beat Ammon, Matthias Troyer, Manfred Sgrist, Kazuo Ueda  
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*Quantum Monte Carlo Simulation of the Trellis Lattice Heisenberg Model for  $\text{SrCu}_2\text{O}_3$  and  $\text{CaV}_2\text{O}_5$*   
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- [22] Matthias Troyer and Subir Sachdev  
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