

X. Zotos - Research Publications

After 2004

1. *Phonon-Magnon Interaction in Low Dimensional Quantum Magnets Observed by Dynamic Heat Transport Measurements*, M. Montagnese, M. Otter, X. Zotos et al., Physical Review Letters **110**, 147206 (2013).
2. *Spinon heat transport and spin-phonon interaction in the spin-1/2 Heisenberg chain cuprates Sr_2CuO_3 and $SrCuO_2$* , N. Hlubek, X. Zotos, S. Singh et al., Journal of Statistical Mechanics- Theory and Experiment, P03006 (2012).
3. *Magnetic excitations in the spin-1 anisotropic antiferromagnet $NiCl_2-4SC(NH_2)(2)$* , C. Psaroudaki, S.A. Zvyagin, J. Krzystek et al., Physical Review **B85**, 014412 (2012).
4. *Finite-temperature Drude weight within the anisotropic Heisenberg chain*, J. Herbrych, P. Prelovsek, X. Zotos, Physical Review **B84**, 155125 (2011).
5. *On the nonlinear response of a particle interacting with fermions in a 1D lattice*, X. Zotos, Journal of Statistical Mechanics - Theory and Experiment, L12003 (2010).
6. *Thermal transport in a spin-1/2 Heisenberg chain coupled to a magnetic or nonmagnetic impurity*, A. Metavitsiadis, X. Zotos, O.S. Barisic et al., Physical Review **B81**, 205101 (2010).
7. *Incoherent transport induced by a single static impurity in a Heisenberg chain*, O.S. Barisic, P. Prelovsek, A. Metavitsiadis, X. Zotos, Physical Review **B80**, 125118 (2009).
8. *Finite temperature transport in disordered Heisenberg chains*, A. Karahalios, A. Metavitsiadis, X. Zotos, A. Gorczyca, P. Prelovsek, Physical Review **B79**, 024425 (2009).
9. *Thermal conductivity of a classical one-dimensional spin-phonon system*, A.V. Savin, G.P. Tsironis, X. Zotos, Physical Review **B75**, 214305 (2007).
10. *Thermal conductivity of one-dimensional spin-1/2 systems coupled to phonons*, K. Louis, P. Prelovsek, X. Zotos, Physical Review **B74**, 235118 (2006).
11. *Microcanonical Lanczos method*, X. Zotos, Philosophical Magazine **86**, 2591 (2006).
12. *Spin conductance in one-dimensional spin-phonon systems*, K. Louis, X. Zotos, Physical Review **B72**, 214415 (2005).
13. *Thermal conductivity of a classical one-dimensional Heisenberg spin model*, A.V. Savin, G.P. Tsironis, X. Zotos, Physical Review **B72**, 140402 (2005).
14. *Issues on the Transport of One Dimensional Quantum Systems*, X. Zotos, Journal of Physical Society of Japan Supplement **74**, 173 (2005).

15. *Anomalous scaling of conductivity in integrable fermion systems*, P. Prelovsek, S. El Shawish, X. Zotos, and M. Long, *Physical Review B* **70**, 205129 (2004).
16. *Diffusive transport in spin-1 chains at high temperatures*, J. Karadamoglou and X. Zotos, *Physical Review Letters* **93**, 177203 (2004).
17. *High temperature thermal conductivity of 2-leg spin-1/2 ladders*, X. Zotos, *Physical Review Letters* **92**, 067202 (2004).

Before 2004

1. *Finite Temperature Dynamical Correlations using the Microcanonical Ensemble and the Lanczos Algorithm*, M. Long, P. Prelovšek, S. El Shawish, J. Karadamoglou and X. Zotos, *Physical Review* **B68**, 235106 (2003).
2. *Transport in one dimensional quantum systems*, X. Zotos and P. Prelovšek, review article to appear in the series *Physics and Chemistry of Materials with Low Dimensional Structures*, Kluwer Academic Publishers (2002).
3. *Quantum Monte Carlo study of the three dimensional attractive Hubbard model*, A. Sewer, X. Zotos and H. Beck, *Physical Review B* **66**, 140504 (2002).
4. *Ballistic transport in classical and quantum integrable systems*, X. Zotos, *Journal of Low Temperature Physics* **126**, 1185 (2002).
5. *Reactive Hall constant of strongly correlated electrons*, P. Prelovšek and X. Zotos, *Physical Review B* **64**, 235114 (2001).
6. *Magnon dispersion and thermodynamics in CsNiF₃*, J. Karadamoglou, N. Papanicolaou, X. Wang and X. Zotos, *Physical Review B* **63**, 224406 (2001).
7. *Magnetization in Molecular Iron Rings*, B. Normand, X. Wang, X. Zotos, D. Loss, *Physical Review B* **63**, 184409 (2001).
8. *Ballistic Hall response*, M. Long, F. Naef, P. Prelovšek and X. Zotos, *Proceedings “XXXVI Rencontres de Moriond” Conference*, EDP Sciences (2001).
9. *Reactive Hall response*, X. Zotos, F. Naef, M. Long, and P. Prelovšek, *Physical Review Letters* **85**, 377 (2000).
10. *Drude weight, integrable systems and the reactive Hall constant*, X. Zotos, F. Naef, M. Long, and P. Prelovšek, *Proceedings NATO ARW Open Problems in Strongly Correlated Electron Systems*, Bled, Slovenia, Editor Kluwer (2000).
11. *Thermodynamics of the spin-flop transition in a quantum XYZ chain*, X. Wang, X. Zotos, J. Karadamoglou and N. Papanicolaou, *Physical Review B* **61**, 14303 (2000).
12. *Hall constant of strongly correlated electrons on a ladder*, P. Prelovšek, M. Long, T. Markež and X. Zotos, *Physical Review Letters* **83**, 2785 (1999).
13. *Finite temperature transport in integrable quantum many body systems*, X. Zotos, F. Naef, P. Prelovšek, *Proceedings “Rencontres de Moriond” Conference*, Editions Frontières, (1999).
14. *Cohesion and conductance of disordered metallic point contacts*, J. Bürki, C.A. Stafford, X. Zotos, D. Baeriswyl, *Physical Review B* **60**, 5000 (1999).

15. *Orbital magnetic susceptibility of the attractive Hubbard model*, A. Sewer, H. Beck and X. Zotos, ACS '98 Proceedings, Physica C**317-318**, 475 (1999).
16. *Autocorrelations from the transfer matrix DMRG method*, F. Naef, X. Wang, X. Zotos, W. von der Linden, Physical Review B**60**, 359 (1999).
17. *Finite temperature Drude weight of the one dimensional spin 1/2 Heisenberg model*, X. Zotos, Physical Review Letters **82**, 1764 (1999).
18. *Solution of the infinite range t-J model*, B. Binz, X. Zotos and D. Baeriswyl, Journal of Physics A**31**, 4225 (1998).
19. *Spin and energy correlations in the one dimensional spin 1/2 Heisenberg model*, F. Naef, X. Zotos, Journal of Physics C**10**, L183 (1998).
20. *Statistics of Mass Aggregation in a Self-Gravitating One-Dimensional Gas*, J.C. Bonvin, Ph.A. Martin, J. Piasecki and X. Zotos, Journal of Statistical Physics **91**, 177 (1998).
21. *Transport and conservation laws*, X. Zotos, F. Naef and P. Prelovšek, Physical Review B**55**, 11029 (1997).
22. *Integrability and ideal transport at finite temperatures*, X. Zotos, H. Castella, P. Prelovšek, Proceedings XXXI Rencontres de Moriond Conference (1996).
23. *Finite temperature mobility of a particle coupled to a fermion environment*, H. Castella, X. Zotos, Physical Review B**54**, 4375 (1996).
24. *Evidence for ideal conducting/insulating behavior in 1D integrable systems*, X. Zotos, P. Prelovšek, Physical Review B**53**, 983 (1996).
25. *Connection between low energy effective Hamiltonians and energy level statistics*, M. DiStasio, X. Zotos, Physical Review Letters **74**, 2050 (1995).
26. *Integrability and ideal conductance at finite temperatures*, H. Castella, X. Zotos, P. Prelovsek, Physical Review Letters **74**, 972 (1995).
27. *Phase diagram of the one-dimensional extended Hubbard model at quarter filling*, F. Mila, X. Zotos, Europhysics Letters **24**, 133 (1993).
28. *Universality in the Spectra of Strongly Correlated Systems*, M. Faas, B.D. Simons, X. Zotos, B.L. Altshuler, Physical Review B**48**, 5439 (1993).
29. *Exact calculation of spectral properties of a particle interacting with a one dimensional fermionic system*, H. Castella, X. Zotos, Physical Review B**47**, 16186 (1993).
30. *Hole-hole correlations in the $U = \infty$ limit of the Hubbard model and the stability of the Nagaoka state*, M. Long, X. Zotos, Physical Review B**48**, 317 (1993).

31. *Variational treatment of the one-dimensional Peierls-Hubbard model: lattice dimerization and solitons*, E. Jeckelmann, D. Baeriswyl and X. Zotos, *Synthetic Metals* **57**, 4249 (1993).
32. *Hole pairing and clustering in the two-dimensional t - J model*, P. Prelovsek and X. Zotos, *Physical Review* **B47**, 5984 (1993).
33. *Ground state energy and spin of a generalized statistics t - J model*, M. Long and X. Zotos, *Physical Review* **B45**, 9932 (1992).
34. *A geometrical view of the minus-sign problem*, A. Muramatsu, G. Zumbach, X. Zotos, *International Journal of Modern Physics* **C3**, 185, (1992).
35. *Study of a Hamiltonian describing orbital excitations*, A. Shelankov, B. Möller, W. Weber, X. Zotos, *Z. Physik* **B84**, 221, (1991).
36. *Gutzwiller wavefunction description of a particle in a fermionic bath*, F. Gebhard and X.Zotos, *Physical Review* **B43**, 1176 (1991).
37. *Correlation functions for the two dimensional Hubbard model*, J. Carmello, M. Dzierzawa, X.Zotos, D. Baeriswyl, *Physical Review* **B43**, 598 (1991).
38. *Dynamics of quasiparticles in 2D Hubbard model*, D. Mattis, M. Dzierzawa, X. Zotos, *Physical Review* **B42**, 6787 (1990).
39. *Single-hole effective masses in the t - J model*, X.Zotos, P. Prelovsek, I. Sega, *Physical Review* **B42**, 8445 (1990).
40. *The Cu $d-d$ excitation model: studies of the insulating limit*, W. Weber, A.L. Shelankov, X. Zotos, *Proc. Int. Conf. 'Materials and Mechanisms of Superconductivity - High Temperature Superconductors'* Stanford, USA (1989), North Holland , Amsterdam (1989).
41. *Numerical simulations for many body problems*, X. Zotos, M. Dzierzawa, *Proceedings of NATO Advanced Study Institute on Applications of Statistical and Field Theory Methods to Condensed Matter*, Plenum Press.
42. *Numerical simulation of a one dimensional two band model*, X. Zotos, W. Lehr, *Proceedings of NATO Advanced Research Workshop on "Interacting Electrons in Reduced Dimensions"*, **213** Plenum Press (1989).
43. *Correlation functions for the two dimensional Hubbard model*, J. Carmelo, D. Baeriswyl, X. Zotos, *Proceedings of NATO Advanced Research Workshop on "Interacting Electrons in Reduced Dimensions"*, **213** Plenum Press (1989).
44. *Recent studies of the d - d excitation model*, W. Weber, A.L. Shelankov, X. Zotos, *Proceedings NEC Symposium*, Springer (1989).

45. *Quantum Monte Carlo study of a one dimensional two band fermion model*, X. Zotos, W. Lehr, W. Weber, Zeitschrift für Physik **B74** 289, (1989).
46. *Finite size system study of the $d-d$ excitation model*, X. Zotos, A.L. Shelankov, and W. Weber, Physica **C153**, 1309 (1988).
47. *A weak coupling limit of the $d-d$ excitation model for the high T_c cuprates*, A.L. Shelankov, X. Zotos, and W. Weber, Physica **C153**, 1307 (1988).
48. *A Cu $d-d$ excitation model for the pairing in the high T_c cuprates*, W. Weber, A.L. Shelankov, and X. Zotos, Physica **C153**, 1305 (1988).
49. *Correlations in the one dimensional almost half-filled band Hubbard model in the large U limit*, X. Zotos, Physical Review **B37**, 5594 (1988).
50. *Exact and numerical study of the effective hopping of a particle interacting with a fermionic bath in one dimension*, X. Zotos, F. Pelzer, Physical Review **B37**, 5045 (1988).
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54. *Magnetic Resonance and Vortex Pair State in $^3\text{He} - A$ at Low Temperatures*, X. Zotos, K. Maki, LT 17 Proceedings, post deadline paper.
55. *Vortex Pair State in Rotating Superfluid $^3\text{He} - A$* , K. Maki, X. Zotos, LT 17 Proceedings **1**.
56. *Magnetoresistance Measurements of $V_3\text{Si}$ -Evidence for Precursor Effects of the Martensitic Transformation*, X. Zotos, O. Laborde, J.P. Senateur, Solid State Communications **50**, 453 (1984).
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58. *Static and Dynamic Properties of 2-D Wigner Crystal in a Strong Magnetic Field*, K. Maki and X. Zotos, Physical Review **B28**, 4349 (1983).
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60. *Bethe Ansatz Massive Thirring Model Thermodynamics: The Weak Coupling Limit* X. Zotos, Physical Review **B26**, 2519 (1982).
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64. *Impurity conduction and minimum metallic conductivity in n-type InP subjected to a magnetic field*, G. Biskupski, H. Dubois, O. Laborde, X. Zotos, Philosophical Magazine B. (GB), **42**, 1 (1980).