

Curriculum Vitae

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Research and professional experience:

May 2002 - present: Associate Professor at Department of Physics, Graduate School of Science, Kobe University.

October 1996 - April 2002: Assistant Professor at Department of Physics, Faculty of Science, Kobe University.

April 1992 - September 1996: Research associate at Department of Physics, Faculty of Science, Tohoku University.

Education:

March 1992: Awarded a doctor of science at Osaka University for a thesis entitled "Electron Correlation Effects in Low Dimensional Periodic Systems".
Work supervised by Prof. J. Kanamori.

April 1989 - March 1992: Doctoral Program in Science, Osaka University.

April 1987 - March 1989: Master's Program in Science, Osaka University. Awarded a master of Science for a thesis entitled "Pairing Mechanism of Holes in High T_c Superconductors".
Work supervised by Prof. J. Kanamori.

April 1983 - March 1987: Department of Physics, Faculty of Science, Osaka University. Awarded a bachelor of Science.

Technical experience:

Investigated variational principle in the Density Matrix Renormalization Group (DMRG) method, and developed numerical algorithms, such as the Corner Transfer Matrix Renormalization Group (CTMRG) and the Tensor Product Variational Approach (TPVA), for the applications of DMRG to 2- and 3-dimensional classical systems. Also wrote original source codes for the Interaction Round a Face (IRF) DMRG method applied to 1-dimensional quantum spin chains.

List of articles

- [1.] T. Nishino, M. Kikuchi and J. Kanamori: “A Model for Superconducting Cu Oxides”, *Solid State Comm.* **68** (1988) 455-458.
- [2.] T. Nishino and J. Kanamori: “Electronic Structure of Cu-O₃ Pyramidal Plane”, *J. Phys. Soc. Jpn* **59** (1990) 253-258.
- [3.] T. Nishino: “Effect of Hole Itinerancy on XAS and XPS Spectra of the High-T_c Compounds”, *J. Phys. Soc. Jpn* **592** (1990) 4376-4383.
- [4.] M. Takahashi, T. Nishino and J. Kanamori: “Internal Magnetic Field at the La Atom in La₂MO₄”, *J. Phys. Soc. Jpn* **60** (1991) 1365-1371.
- [5.] T. Nishino: “Electron Correlation Effects in Low Dimensional Periodic Systems”, ph.D Thesis, Osaka University (1992)
- [6.] T. Nishino: “Ground State Wave Function of an Extended Hubbard Model”, *Springer Proc. in Phys.* **70** (1992) 117-118.
- [7.] M. Kaburagi, T. Tonegawa and T. Nishino: “Numerical Study of Quantum Spin System” *Springer Proc. in Phys.* **70** (1992) 179-180.
- [8.] T. Nishino: “Charge Excitation Gap of the Extended Hubbard Model”, *J. Phys. Soc Jpn* **61** (1992) 3651-3657.
- [9.] T. Nishino: “Survey of the Charge Excitation Gap by a 2D Filter”, *Physica B* **186-188** (1993) 885-887.
- [10.] T. Nishino and Kazuo Ueda: “Spin- and Charge-Excitation Gaps in the one-dimensional Periodic Anderson Model”, *Phys. Rev. B* **47** (1993) 12451-12458.
- [11.] Kazuo Ueda, M. Sigrist, H. Tsunetsugu and T. Nishino: “The Ground State Phase Diagram of the Kondo Lattice Model”, *Physica B* **194-196** (1994) 255-256.
- [12.] Kazuo Ueda, T. Nishino, H. Tsunetsugu: “Large Fermi Surface of the one-dimensional Kondo-Lattice Model”, *Physica B* **199-200** (1994) 191-194.
- [13.] Kazuo Ueda, T. Nishino and H. Tsunetsugu: “Large Fermi Surface of the one-dimensional Kondo Lattice Model”, *Phys. Rev. B* **50** (1994) 612-615.
- [14.] T. Nishino, K. Ueda, and H. Tsunetsugu: “Fermi Volume of the Kondo-Lattice Model”, *Springer Series in Solid State Science* **118** (1994) 113-120.
- [15.] T. Nishino and Kazuo Ueda: “Dynamical Correlation Functions of one-dimensional Kondo Insulators”, *Physica B* **206-207** (1995) 813-815.
- [16.] T. Nishino: “Density Matrix Renormalization Group Method for 2D Classical Models”, *J. Phys. Soc. Jpn.* **64** (1995) 3598-3601.
- [17.] T. Nishino and K. Okunishi: “Product Wave Function Renormalization Group”, *J. Phys. Soc. Jpn.* **64** (1995) 4084-4087.
- [18.] H. Otsuka and T. Nishino: “Gap-formation mechanism of the Kondo-necklate model”, *Phys. Rev. B* **52** (1995) 15066-15069.
- [19.] M. Kaburagi, T. Moriwaki, T. Nishino, and T. Tonegawa: “Impurity Bond Effect on the Antiferromagnetic Ising-like Chain”, *Int. J. Mod. Phys. C* **7** (1996) 457-62.
- [20.] T. Seki, Y. Kuramoto, and T. Nishino: “Origin of Magnetic Angular Momentum in a Quantum Dot under Strong Magnetic Field”, *J. Phys. Soc. Jpn.* **65** (1996) 3945-3951.
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- [27.] G. Sierra and T. Nishino: “Density Matrix Renormalization Group Method Applied to Interaction round a face Hamiltonian”, Nuclear Physics B **495** (1997) 505-532.
- [28.] T. Nishino and K. Okunishi: “Corner Transfer Matrix Algorithm for Classical Renormalization Group”, J. Phys. Soc. Jpn. **66** (1997) 3040-3047.
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