

CURRICULUM VITAE

Name Shuhei Yoshida

Address and telephone number

Institut für theoretische Physik
Technische Universität Wien
Wiedner Hauptstrasse 8-10/136
A-1040 Wien, Austria
Tel: +43 1 58801-13611 Fax: +43 1 58801-13699
Email: shuhei@concord.itp.tuwien.ac.at

Date and place of birth

June 10, 1970, Osaka, Japan.

Present position

University assistant, Institut für theoretische Physik, Technische Universität Wien

Research Interests

Atomic Physics, non-linear dynamics, classically chaotic systems and their quantum manifestations.

Education UNIVERSITY OF TENNESSEE, KNOXVILLE

Ph.D. in Physics, August 13th, 1999.

KYOTO UNIVERSITY, JAPAN

M.E. in Applied Mathematics and Physics, April 1996.

B.E. in the same field, April 1994.

Research experience

Apr/1993 - Dec/1995 : Research Assistant, Kyoto University

Jan/1996 - Sep/1999 : Research Assistant, University of Tennessee and
Oak Ridge National Laboratory

Oct/1999 - June/2000 : Guest Scientist, Max Planck Institute
for the Physics of Complex Systems

July/2000 - now : Present position

Funding Fonds zur Förderung der wissenschaftlichen Forschung (FWF)

Project No. P15025

"Enhanced recombination in low-temperature magnetized plasmas"
(since July/2001).

Publications Seventeen refereed articles and several brief publications in proceedings of international conferences.

List of publications

1. “Semiclassical analysis of the periodically kicked Rydberg atom,”
S. Yoshida, F. Großmann, E. Persson and J. Burgdörfer,
(*in preparation*).
2. “Quantum localization in the three-dimensional kicked atom,”
E. Persson, S. Yoshida, X.-M. Tang, C. O. Reinhold, and J. Burgdörfer,
(*submitted to Phys. Rev. A*).
3. “Quantum localization in the high-frequency limit,”
E. Persson, S. Yoshida, X.-M. Tang, C. O. Reinhold, and J. Burgdörfer,
Phys. Rev. A **66** 043407 (2002).
4. “Designing Rydberg wavepackets using trains of half-cycle pulses,”
C. O. Reinhold, S. Yoshida, J. Burgdörfer, B. E. Tannian, C. L. Stokely, and
F. B. Dunning,
J. Phys. B **34** L551 (2001).
5. “Quantum signature of reconnection bifurcations,”
G. Corso, S. D. Prado, and S. Yoshida,
Physica A **295** 316 (2001).
6. “Siebert-pseudostate representation of quantal time evolution: A harmonic
oscillator kicked by periodic pulses,”
S. Tanabe, S. Watanabe, N. Sato, M. Matsuzawa, S. Yoshida, C. O. Reinhold,
and J. Burgdörfer,
Phys. Rev. A **63** 052721 (2001).
7. “The kicked atom : behavior with uni- and bi-directional trains of impulses,”
B. E. Tannian, R. A. Popple, F. B. Dunning, S. Yoshida, C. O. Reinhold, and
J. Burgdörfer,
Phys. Rev. A **62** 43402 (2000).
8. “Exponential and non-exponential localization of the one-dimensional period-
ically kicked Rydberg atom,”
S. Yoshida, C. O. Reinhold, P. Kristöfel, and J. Burgdörfer,
Phys. Rev. A **62** 23408 (2000).
9. “Quantum evolution of atomic states during transmission through solids,”
D.G. Arbó, C.O. Reinhold, S. Yoshida, and J. Burgdörfer,
Nuc. Inst. Meth. **164** 495 (2000).
10. “Quantum localization of the kicked Rydberg atom”
S. Yoshida, C. O. Reinhold, and J. Burgdörfer,
Phys. Rev. Lett. **84** 2602 (2000).
11. “Reflection-free propagation of wave packets,”
S. Yoshida, S. Watanabe, C. O. Reinhold, and J. Burgdörfer,
Phys. Rev. A **60** 1113 (1999).
12. “Quantum transport theory for atomic states through solids,”
D. G. Arbó, C. O. Reinhold, P. Kürpick, S. Yoshida, and J. Burgdörfer,
Phys. Rev. A **60** 1091 (1999).

13. "Floquet analysis of the dynamical stabilization of the kicked hydrogen atom,"
S. Yoshida, C. O. Reinhold, P. Kristöfel, J. Burgdörfer, S. Watanabe, and F.
B. Dunning,
Phys. Rev. A **59** R4121 (1999).
14. "Realization of the kicked atom,"
M. T. Frey, F. B. Dunning, C. O. Reinhold, S. Yoshida and J. Burgdörfer,
Phys. Rev. A **59** 1434 (1999).
15. "Electronic excitation in transmission of relativistic H^- ions through thin
foils,"
C. O. Reinhold, P. Kürpick, J. Burgdörfer, S. Yoshida, and B. Gervais,
Nucl. Instr. and Meth. **146** 76 (1998).
16. "Ionization of Rydberg atoms by half-cycle pulses: effect of pulse shape and
rise time,"
B. E. Tannian, R. A. Popple, F. B. Dunning, S. Yoshida, C. O. Reinhold, and
J. Burgdörfer,
J. Phys. B **31** L455 (1998).
17. "Accurate ionization thresholds of atoms subject to half cycle pulses,"
S. Yoshida, C. O. Reinhold, J. Burgdörfer, B. E. Tannian, R. A. Popple, and
F. B. Dunning,
Phys. Rev. A **58** 2229 (1998).
18. "Statistical mechanics of deformable molecular liquids: Thermal expansion
and isomerization of diatomic molecules,"
T. Munakata, S. Yoshida, and F. Hirata,
Phys. Rev. E **54** 3687 (1996).
19. "Shear-induced distortion of intramolecular and intermolecular correlations
in liquids: Time-dependent density-functional theory,"
S. Yoshida, F. Hirata and T. Munakata,
Phys. Rev. E **54** 1763 (1996).

Invited talk

1. “Tailoring and controlling wave packets in multi-photon atom collisions”
S. Yoshida, C. O. Reinhold, E. Persson, J. Burgdörfer, F. B. Dunning
Contributed paper (progress report), 23rd International Conference on the Physics of Electronic and Atomic Collisions (XXIII ICPEAC), Stockholm, Sweden (2003).

Communications to international and national conferences

1. “Semiclassical analysis of the kicked Rydberg atom”
S. Yoshida, F. Großmann, E. Persson, J. Burgdörfer, Dynamics Days 2003, Palma de Mallorca, Spain (2003).
2. “Tailoring and controlling wave packets in multi-photon atom collisions”
S. Yoshida, C. O. Reinhold, E. Persson, J. Burgdörfer, F. B. Dunning
Contributed paper (progress report), 23rd International Conference on the Physics of Electronic and Atomic Collisions (XXIII ICPEAC), Stockholm, Sweden (2003).
3. “Classical analysis of the above threshold ionization”
K. Dimitriou, D. Arbó, S. Yoshida, E. Persson, and J. Burgdörfer,
Ibid.
4. “Electron-ion recombination : influence of transient field effects”
M. Hörndl, S. Yoshida, K. Tókési, and J. Burgdörfer,
Ibid.
5. “Quantum localization in in the three-dimensional kicked atom”
E. Persson, S. Yoshida, X. M. Tong, C. O. Reinhold, and J. Burgdörfer,
Ibid.
6. “Semiclassical analysis of the kicked Rydberg atom”
S. Yoshida, F. Großmann, E. Persson, J. Burgdörfer,
Chaos and Interactions in Complex Quantum Systems, Regensburg Germany (2002).
7. “Semiclassical analysis of the kicked Rydberg atom”
S. Yoshida, F. Großmann, E. Persson, J. Burgdörfer,
23th Arbeitskreis Energiereiche Atomare Stösse, Riezlern Austria (2002).
8. “Low energy electron-ion recombination in a magnetic field: The role of chaotic dynamics”
M. Hörndl, S. Yoshida, K. Tókési, and J. Burgdörfer,
Ibid.
9. “Semiclassical analysis of the kicked Rydberg atom”
S. Yoshida, F. Großmann, E. Persson, J. Burgdörfer,
51st ÖPG annual meeting, Vienna, Austria (2001).
10. “Dynamical localization in the 3-D kicked Rydberg atom”
E. Persson, S. Yoshida, X. M. Tong, C. O. Reinhold, and J. Burgdörfer,
Ibid.
11. “Electron ion recombination – a case of chaotic dynamics”
M. Hörndl, S. Yoshida, K. Tókési, and J. Burgdörfer,
Ibid.

12. “Electron ion recombination – a case of chaotic dynamics”
M. Hörndl, S. Yoshida, K. Tókési, and J. Burgdörfer,
Contributed paper (Invited talk), 3rd Euroconference on Atomic Physics at Accelerators (APAC), Aarhus, Denmark (2001).
13. “Low-Energy Electron Ion Recombination in a Magnetic Field: The Role of Chaotic Dynamics”
M. Hörndl, S. Yoshida, K. Tókési, and J. Burgdörfer,
Contributed paper (special report), 22nd International Conference on the Physics of Electronic and Atomic Collisions (XXII ICPEAC), Santa Fe, NM, U.S.A. (2001).
14. “Dynamical localization in the 3-D kicked Rydberg atom”
E. Persson, S. Yoshida, C. O. Reinhold, X. M. Tong, and J. Burgdörfer,
DAMOP Meeting of the American Physical Society, London, Ontario, Canada (2001).
15. “Low energy electron ion recombination in a magnetic field”
M. Hörndl, S. Yoshida, K. Tókési, and J. Burgdörfer,
7th European Conference on Atomic and Molecular Physics, and DPG spring meeting, Berlin, Germany (2001).
16. “Dynamical localization in the 3-D kicked Rydberg atom”
E. Persson, S. Yoshida, X. M. Tong, C. O. Reinhold, and J. Burgdörfer,
Ibid.
17. “Quantum localization of the kicked Rydberg atom”
S. Yoshida, C. O. Reinhold, P. Kristöfel, and J. Burgdörfer,
PASI Workshop on Chaos, decoherence and quantum entanglement: towards quantum classical correspondence, Ushuaia, Argentina (2000).
18. “Quantum localization of the kicked Rydberg atom”
S. Yoshida, C. O. Reinhold, P. Kristöfel, and J. Burgdörfer.
DAMOP Meeting of the American Physical Society, Storrs, CT, U.S.A. (2000).
19. “The Kicked Atom: Behavior With Uni- And Bi-Directional Trains Of Impulses”
B. E. Tannian, C. L. Stokely, F. B. Dunning, C. O. Reinhold, S. Yoshida, and J. Burgdörfer,
Ibid.
20. “Quantum localization of the periodically kicked Rydberg atom”
S. Yoshida, C. O. Reinhold, P. Kristöfel, J. Burgdörfer, and F. B. Dunning,
International Workshop on Quantum Dynamics in Terms of Phase-Space Distributions, Dresden, Germany (2000).
21. “Quantum signature of reconnection of resonances”
G. Corso, S. Prado, and S. Yoshida,
Ibid.
22. “Quantum localization of the periodically kicked Rydberg atom”
S. Yoshida, C. O. Reinhold, P. Kristöfel, J. Burgdörfer, and F. B. Dunning,
International Workshop and Seminar on Atomic Systems in Extreme Fields, Dresden, Germany (2000).

23. “Dynamical stabilization of the kicked hydrogen atom”
S. Yoshida, C. O. Reinhold, P. Kristöfel, J. Burgdörfer, S. Watanabe, and F. B. Dunning,
Contributed paper, 21st International Conference on the Physics of Electronic and Atomic Collisions (XXI ICPEAC), Sendai, Japan (1999).
24. “Quantum transport theory for atomic states through solids”
D. G. Arbó, C. O. Reinhold, S. Yoshida, and J. Burgdörfer,
Ibid.
25. “Depletion of harmonic oscillator states by periodic kicks”
N. Sato, S. Watanabe, M. Matsuzawa, S. Yoshida, C. O. Reinhold, and J. Burgdörfer,
Ibid.
26. “Dynamical stabilization of the kicked hydrogen atom”
S. Yoshida, C. O. Reinhold, P. Kristöfel, J. Burgdörfer, S. Watanabe, and F. B. Dunning,
Adriatico Research Conference on ”Non-Hermiticity and Disorder” , Trieste, Italy(1999).
27. “Quantum stabilization of the kicked hydrogen atom”
S. Yoshida, C. O. Reinhold, P. Kristöfel, J. Burgdörfer, S. Watanabe, and F. B. Dunning,
DAMOP Meeting of the American Physical Society, Atlanta, GA, U.S.A. (1999).
28. “On the reflection-free propagation of wavepackets”
S. Yoshida, S. Watanabe, C. O. Reinhold, and J. Burgdörfer,
Ibid.
29. “Quantum transport theory for atomic states through solids”
D. G. Arbó, C. O. Reinhold, P. Küpick, S. Yoshida, and J. Burgdörfer,
Ibid.
30. “Depletion of quantum states induced by periodic half-cycle pulses or kicks”
N. Sato, S. Watanabe, M. Matsuzawa, S. Yoshida, C. O. Reinhold, and J. Burgdörfer,
The annual meeting of the Physics Society of Japan, Hiroshima, Japan (1999).
31. “Dynamical stabilization of the kicked Rydberg atom”
S. Yoshida, C. O. Reinhold, J. Burgdörfer, M. T. Frey, F. B. Dunning,
Sputnik Conference of Statphys 20 on ”Classical Chaos and its Quantum manifestations”, Toulouse, France (1998).
32. “Accurate ionization thresholds of atom subject to half-cycle pulses”
S. Yoshida, C. O. Reinhold, J. Burgdörfer, B. E. Tannian, R. A. Popple, F. B. Dunning,
DAMOP Meeting of the American Physical Society, Santa Fe, NM, U.S.A. (1998).
33. “Dynamical stabilization of the kicked Rydberg atom”
C. O. Reinhold, S. Yoshida, J. Burgdörfer, M. T. Frey, F. B. Dunning,
Ibid.

34. “Shear-induced distortions in intra- and intermolecular correlations and shear viscosity”, T. Munakata, S. Yoshida, and F. Hirata
The 51st Annual meeting of the Physics Society of Japan, Kanazawa, Japan (1996).
35. “Shear-induced distortion of intramolecular and intermolecular correlations in liquids: Time-dependent density-functional theory,”
S. Yoshida, F. Hirata and T. Munakata,
Semi-annual meeting of the Physics Society of Japan, Osaka, Japan (1995).