PUBLICATION LIST FOR BOB JOYNT, 3/21/21

H-index of 47 and 7,700 total citations

PUBLICATIONS

175. Anisotropy with respect to the applied magnetic field in relaxation and dephasing times of spin qubits, Yunjun Choi and R. Joynt, submitted to npj Quant. Info., 2021


170. Tunable discrete scale invariance in transition-metal pentatelluride flakes, Yanzhao Liu, Huichao Wang, Haipeng Zhu, Yanan Li, Jun Ge, Junfeng Wang, Liang Li, Ji-Yan Dai, Jiaqiang Yan, David Mandrus, Robert Joynt, and Jian Wang, npj Quantum Materials 5, 1–6 (2020)

169. Phase diagram of the interacting persistent spin-helix state, Hong Liu, Weizhe Edward Liu, Stefano Chesi, Robert Joynt, and Dimitrie Culcer, Phys. Rev. B 102, 205410 (2020)


156. Evanescent-wave Johnson noise in small devices,


153. Improved error thresholds for measurement-free error correction

152. Quantum interference in topological insulator Josephson junctions,


144. Power law scaling for the adiabatic algorithm for search engine ranking


122. Spin relaxation in isotopically purified silicon quantum dots, M. Prada, R.H. Blick, R. Joynt, Physica E 42, 639 (2010)


90. The Superconducting Phases of UPt3 (with L. Taillefer), Rev. Mod. Phys. 74, 235 (2002)


85. Theory of the Transition at 0.2 K in Ni-Doped Bi$_2$Sr$_2$CaCu$_2$O$_{8+x}$ Phys. Rev. Lett. 84, 3954 (2000)


82. The Spectral, Structural and Transport Properties of the Pseudogap System (TaSe$_4$)$_2$I, (with N. Shannon), Solid State Comm. 115, 411 (2000)


78. Analysis and Experimental Evidence of s+d Ordering in High-$T_c$ Superconductors (with J. Betouras), Physica C: Superconductivity 317-318, 669 (1999)


72. Material-Specific Calculations of Gap Symmetry in High-T$_c$ Superconductors (with B. Koltenbah), Repts. Prog. in Phys. 60, 23 (1997)


70. Interpretation of Photoemission Spectra of (TaSe$_4$)$_2$I as Evidence for Charge Density Fluctuations, J. Phys: Cond. Matt. 8, 10493 (1996)


68. Phase Diagram of Superconducting UPt$_3$ in the E$_{1g}$ model (with K. Park), Phys. Rev. B 53, 12346 (1996)


64. Phase Diagram of UPt$_3$ in the E$_{1g}$ model (with K. Park), Phys. Rev. Lett. 74, 4734 (1995)

63. Temperature-dependent Gap Anisotropy in Bi$_2$Sr$_2$CaCu$_2$O$_{8+x}$ as Evidence for a Mixed-symmetry Ground State (with J. Betouras), Europhys. Lett. 31, 119 (1995)


41. Effects of Disorder on Superconductivity in the Two-dimensional Hubbard Model (with W. Halley, S. Davis, and P. Samsel), Proc. of the Int. Conf. on Valence Fluctuations, (New World Scientific, Singapore, 1990)

40. Phase Diagram of a Multiple Quantum Well in a Strong Perpendicular Field (with X. Qiu and A. H. MacDonald), Phys. Rev. B 42, 1339 (1990)


27. Phase Diagram of d-wave Superconductors in a Magnetic Field, Superconductor Science and Technology \textbf{1}, 210 (1988)


BOOKS EDITED


PATENTS


Ph.D. STUDENTS

William O. Putikka, Ph.D., August, 1988 (Faculty, Ohio State Univ. Mansfield)
Xiu Qiu, Ph.D., August 1990
Hongjun Bark, Ph.D. May, 1992 (Faculty, Univ. of Pusan, Korea)
Guan-jie Chen, Ph.D. May, 1992
George Stejic, Ph. D., December, 1993 (Materials Research Society Award)
Senthil K. Sundaram, Ph. D., December, 1994 (Two Sigma)
Kevin Park, Ph. D., December, 1995 (Epic Systems)
Nic Shannon, exchange student, Ph.D. 1999, Univ. of Warwick (Faculty, Okinawa Univ. of Science and Technology)
Ben Koltenbah, Ph. D., September, 1996 (Staff Scientist, Boeing Corp.)
Joseph Betouras, Ph. D., September, 1997 (Faculty, Loughborough Univ.)
Rob Haslinger, Ph.D., June, 2001 (Scientist, Harvard Univ.)
Chien-yu Tsau, Ph.D., September, 2002
Charles Tahan, Ph.D., September, 2005 (Staff Scientist and Technical Director, Laboratory for Physical Sciences, College Park, MD)
Sucismita Chutia, Ph.D., September, 2007 (postdoc, Univ. of Paris)
Diu Nghiem, Ph.D., September, 2007 (postdoc, Jiaotong Univ., Taiwan)
Shiue-yuan Shiau, Ph.D., September, 2007 (postdoc, CENS, Grenoble; Academica Sinica, Taipei, Taiwan)
Dong Zhou, Ph. D., September, 2011 (postdoc, Yale University)
Jian-Jia Fei
Kenneth Rudinger (Staff Scientist, Sandia National Laboratory)
Daniel Crow (postdoc, Jiaotong University)
Vickram Premakumar
Deepak Mallubholta (current)
Yujun Choi (current)
TEACHING

Univ. of Wisconsin 1986-present

Solid State Physics (551)
Statistical Mechanics (715)
Scientific Background for Environmental Problems (472)
Advanced Solid State Physics (751, 752)
Theoretical Physics-Electrodynamics (721)
Modern Physics for Electrical Engineers (244)
Modern Physics for Engineers (205)
Elementary Physics for Scientists and Engineers (202)
Modern Concepts of Physics (107)
Classical Mechanics (311)
Quantum Computing (709, 801)

ETH-Zurich 1984-6
Teaching Assistant in Quantum Field Theory 1984-5
and Solid State Physics 1985-6

Peking University 2014
Quantum Computing

University of the Chinese Academy of Sciences 2018
Quantum Computing

Cambridge University 1983-84
Course in Many-body Theory, Department
of Applied Mathematics and Theoretical Physics
Undergraduate Supervisor, Corpus Christi College

Univ. of Maryland 1976-82
Teaching Assistant in Undergraduate and Graduate Courses
UNIVERSITY SERVICE

Committee on Honorary Degrees, 2002-2007
Executive Committee of the Natural Sciences Division, 2001-4
Graduate School Fellowship Committee, 1990-1992, Chairman, 1992

DEPARTMENTAL SERVICE

Admissions Committee, 1986-8, 1994-95, 2000-2, 2004-6, 2008-9; Chair, 2006-7
Associate Chair for Alumni Relations 2017-present
Library Committee, Chair, 2001-2002; Chair, 2004
Faculty Recognition Committee, 2000-2004
Department Secretary, 1986-7
TA Policy and Procedures Committee 1987-8
Introductory Course Committee 1987-8
Instructional Program Coordinator, 2006
New Staff Committee, 1988-90
Prelim Committee, 1989-1990
Graduate Program Committee Chair, 1990-1991, 2001-2003, 2005-6
Promotions Committee 1992-1993
Long-Range Planning Committee, 1995-96
Space Committee, 1995-97
Graduate Program Coordinator 1996-98
Awards Committee, 2007-2009
Alumni Relations Committee, 2008-present

PUBLIC AND SCIENTIFIC SERVICE

Lecturer, NSF High school teachers program,
Madison, September, 1987 & March, 1988
Radio Interview on Superconductivity, WORT, Madison, October, 1987
Public Lecture on Superconductivity, Madison, March, 1988
Article on Superconductivity for L&S Magazine, April, 1988
Radio Interview on Superconductivity, WHA, Madison, May, 1988
Wisconsin Public Service Lecture, Rhinelander, WI, October, 1988
Lecturer, Astronautics, Inc., Madison, October 1988
Book reviews: Science, American Journal of Physics
Committee on Metrics, National Science Foundation, 2001-2
Materials Research Science and Engineering Centers, March, 1995-97
DOE review committee for the Materials Science Division, Argonne National Laboratory, 2001
Wisconsin State Science Olympiad Event Organizer, 2006, 2008
Radio Interview on Quantum Computing, WORT, Madison, November, 2008
International Advisory Board, Shanghai Center for Complex Physics, 2012-present