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Education:

Ph.D. (1991) Technische Universität, München, Germany
M.S. (1988) Technische Universität, München, Germany
B.S. (1981) Xuzhou Normal Univ./Suzhou Univ., China

Professional Employment:

Visiting Associate Professor, University of Notre Dame (Aug. 2002 – present)
Research Associate Professor, University of Tennessee at Knoxville (July 2001 – July 2002)
Research Assistant Professor, University of Tennessee at Knoxville (July 1998 – June 2001)
Research Associate, Oak Ridge National Laboratory (Jan. 1995 – June 1998)
Adjunct Assistant Professor, Drexel University (Jan. 1994 – Dec. 1994)
Postdoctoral Research Fellow, Univ. Autonoma de Madrid, Spain (Oct. 1991 – Dec. 1993)
Graduate teaching assistant, Technische Universität München, Germany (Apr. 1986 – July 1991)
Assistant lecturer, Xuzhou Normal University, China (Sept. 1981 – July 1985)

Professional Services, Honors and Awards:

Senior visiting scholar of Tsinghua University, China (June 2000 – present)
Guest professor of Xuzhou Normal University, China (June 1999 – present)
Reviewer for *Physical Review Letters, Physical Review C, Nuclear Physics A*
Fellowship for outstanding foreign scientists, Spanish Ministry of Education & Science, Spain (Oct. 1991 – Sept. 1993)
Scholarship for international talented students, Konrad-Adenauer-Foundation, Germany (Oct. 1985 – Sept. 1991)

Professional Associations:

Member, American Physical Society
Member, Overseas Chinese Physics Association

List of Peer-Reviewed Publications

Nuclear Structure and Nuclear Astrophysics:

1. R.-D. Herzberg, Y. Sun, *et al.*, "Nuclear isomers in superheavy elements as stepping stones towards the island of stability," Nature, Vol. 442|24 (2006).

Y. Sun, M. Wiescher, A. Aprahamian, and J. Fisker, "Nuclear structure of the exotic mass region along the rp process path," *Nucl. Phys.* A**758** (2005) 765c.

2. J.A. Sheikh and Y. Sun, "Chaos and rotational damping in particle-rotor model," *Nucl. Phys.* A**733** (2004) 67.

3. Y. Sun, X.-R. Zhou, G.-L. Long, E.-G. Zhao, and P.M. Walker, "Nuclear structure of ^{178}Hf related to the spin-16, 31-year isomer," *Phys. Lett.* B**589** (2004) 83.

4. Y. Sun, "Projected shell model study on nuclei near the N=Z lineU," *Eur. Phys. J.* A**20** (2004) 133.

5. D. Bucurescu, N. Mărginean, Y. Sun, *et al.*, "High-spin states in ^{90}Ru and the projected shell model description," *Phys. Rev.* C**69** (2004) 064319.

6. R.A. Kaye, S.L. Tabor, J. Doering, Y. Sun, *et al.*, "Collective excitations and shape changes in ^{80}Y," *Phys. Rev.* C**69** (2004) 064314.

7. N. Mărginean, D. Bucurescu, C.A. Ur, Y. Sun, S. Lunardi, G. de Angelis, *et al.*, "High-spin behavior of multiple bands in the N=Z+1 nucleus ^{81}Zr: A possible probe of enhanced neutron-proton correlations," *Phys. Rev.* C**69** (2004) 054301.

8. Y. Sun, A. Aprahamian, J.-y. Zhang and C.-T. Lee, "Nature of excited 0^+ states in ^{158}Gd described by the projected shell model," *Phys. Rev.* C**68** (2003) 061301(R).

9. Y. Sun and C.-L. Wu, "Multishell shell model for heavy nuclei," *Phys. Rev.* C**68** (2003) 024315.

10. A. Jungclaus, D. Schwalm, G. de Angelis, D.R. Napoli, Y. Sun, *et al.*, "Extended bands and signature dependent electromagnetic decay properties in neutron-rich $^{159, 161, 163}$Dy," *Phys. Rev.* C**67** (2003) 034302.

11. R. Palit, J.A. Sheikh, Y. Sun, and H.C. Jain, "Projected shell model study of odd-odd f-p-g shell proton-rich nuclei," *Phys. Rev.* C**67** (2003) 014321.

12. J.-F. Zhang, G.-L. Long, Y. Sun, S.-J. Zhu, F.-Y. Liu and Y. Jia, "Description of ^{114}Cd in the E(5) symmetry," *Chin. Phys. Lett.* **20** (2003) 1231.

13. Y. Sun, J.A. Sheikh and G.-L. Long, "Nuclear magnetic dipole properties and the triaxial deformation," *Phys. Lett.* B**533** (2002) 253.

14. Y. Sun, C.-L. Wu, K. Bhatt and M. Guidry, "SU(3) symmetry and scissors mode vibrations in nuclei," *Nucl. Phys.* A**703** (2002) 130.

15. O. Zeidan, D.J. Hartley, L.L. Riedinger, Y. Sun, J.-y. Zhang, *et al.*, "Yrast spectroscopy of ^{128}Nd and systematics of the neutron $h_{11=2}$ crossing in A~ 130 nuclei," *Phys. Rev.* C**66** (2002) 044311.

16. A. Jungclaus, D. Schwalm, J.L. Egido, Y. Sun, G.B. Hagemann, *et al.*, "Backbending region study in $^{160, 162}$Dy using incomplete fusion reactions," *Phys. Rev.* C**66** (2002) 014312.

17. N. Mărginean, D. Bucurescu, Y. Sun, G. de Angelis, S.M. Lenzi, *et. al.*, "Delayed alignments in the $N = Z$ nuclei ^{84}Mo and ^{88}Ru," *Phys. Rev.* C**65** (2002) 051303(R).

18. C.-T. Lee, Y. Sun, J.-y. Zhang, M. Guidry and C.-L. Wu, "Microscopic description of band structure at very extended shapes in the A ~ 110 mass region," *Phys. Rev.*C**65** (2002) 041301(R).

19. N. Mărginean, D. Bucurescu, Y. Sun, S. Lunardi, G. de Angelis, *et. al.*, "First observation of excited states in the T_z = 1=2 nucleus ^{85}Mo," *Phys. Rev.* C**65** (2002) 034315.

20. P. Boutachkov, A. Aprahamian, Y. Sun, J.A. Sheikh and S. Frauendorf, "In-band and inter-band B(E2) values within the triaxial projected shell model," *Eur. Phys.J.* A**15** (2002) 455.

21. X.-R. Zhou, Y. Sun, G.-L. Long and E.-G. Zhao, "Projected shell model study on the multi-quasiparticle high-K isomers in ^{174}Hf," *Chin. Phys. Lett.* **19** (2002) 1274.

22. Y. Sun and J.A. Sheikh, "Anomalous rotational-alignment in N=Z nuclei and residual neutron-proton interaction," *Phys. Rev.* C**64** (2001) 031302(R).

23. Y. Sun, J.-y. Zhang and M. Guidry, "g-factors and the interplay of collective and single-particle degrees of freedom in superdeformed mass-190 nuclei," *Phys. Rev* C**63** (2001) 047306.

24. R. Palit, H.C. Jain, P.K. Joshi, J.A. Sheikh and Y. Sun, "Shape coexistence in ^{72}Se," *Phys. Rev.* C**63** (2001) 024313.

25. G.-L. Long and Y. Sun, "Superdeformed band in ^{36}Ar described by projected shell model," *Phys. Rev.* C**63** (2001) 021305(R).

26. J.A. Sheikh, Y. Sun and R. Palit, "Transition quadrupole moments in γ-soft nuclei and the triaxial projected shell model," *Phys. Lett.* B**507** (2001) 115.

27. R. Palit, J.A. Sheikh, Y. Sun and H.C. Jain, "Projected shell model study for the yrast-band structure of the proton-rich mass-80 nuclei," *Nucl. Phys.* A**686** (2001) 141.

28. V. Velázquez, J. Hirsch and Y. Sun, "Band crossing and signature splitting in odd mass *pf* shell nuclei," *Nucl. Phys.* A**686** (2001) 129.

29. J. Pfohl, M.A. Riley, F.G. Kondev, R.K. Sheline, Y. Sun, I. Ragnarsson, *et al.*, "Highly deformed rotational structures in ^{136}Pm," *Phys. Rev.* C**62** (2000) 031304(R).

30. Y. Sun, J.-y. Zhang, M. Guidry, J. Meng and S. Im, "Single particle and collective motion for proton-rich nuclei in the upper *pf* shell," *Phys. Rev.* C**62** (2000) 021601(R).

31. Y. Sun, K. Hara, J.A. Sheikh, J. Hirsch, V. Velazquez and M. Guidry, "Multi-phonon γ-vibrational bands and the triaxial projected shell model," *Phys. Rev.* C**61** (2000) 064323.

32. K. Hara, Y. Sun, and T. Mizusaki, "Backbending mechanism of ^{48}Cr," *Phys. Rev. Lett.* **83** (1999) 1922.

33. Y. Sun, J.-y. Zhang, M. Guidry and C.-L. Wu, "Theoretical constraints for observation of superdeformed bands in the mass-60 region," *Phys. Rev.Lett.* **83** (1999) 686.

34. V. Velázquez, J. Hirsch, Y. Sun and M. Guidry, "Backbending in Dy isotopes within the projected shell model," *Nucl. Phys.* A**653** (1999) 355.

35. V. Velázquez, J. Hirsch and Y. Sun, "The projected shell model," *J. Phys.* G**25** (1999) 787.

36. J.-y. Zhang, Y. Sun, L.L. Riedinger and M. Guidry, "Does independent quasiparticle picture hold in mass-190 superdeformed nuclei?," *J. Phys.* G**25** (1999) 819.

37. Y. Sun, M. Guidry, V. Velázquez, J. Hirsch, J.A. Sheikh and K. Hara, Low and high spin states in rare earth nuclei – A theoretical study using the projected shell model," *Rev. Mex. Fis.* **45** (1999) 74.

38. Y. Sun, C.-L. Wu, K. Bhatt, M. Guidry and D.H. Feng, "Scissors mode vibrations in coupled neutron-proton systems – Emergence of SU(3) symmetry from projected deformed mean field," *Phys. Rev. Lett.* **80** (1998) 672.

39. J.-y. Zhang, Y. Sun, M. Guidry, L.L. Riedinger and G.A. Lalazissis, "Single particle and collective structure for nuclei near ^{132}Sn," *Phys. Rev.* C**58** (1998) R2663.

40. J.-y. Zhang, Y. Sun, L.L. Riedinger and M. Guidry, "Lack of additivity in mass-190 superdeformed bands," *Phys. Rev.* C**58** (1998) 868.

41. Y. Sun and K. Hara, "Theoretical reinvestigation of high-spin spectroscopy of ^{164}Er," *Phys. Rev.* C**57** (1998) 3079.

42. D.E. Archer, M.A. Riley, S.L. Tabor, Y. Sun, J.L. Egido, *et al.*, "Rotational bands in ^{170}Yb and ^{171}Yb and the projected shell model," *Phys. Rev.* C**57** (1998) 2924.

43. J. Döring, M.A. Riley, S.L. Tabor, Y. Sun, J.A. Sheikh, *et al.*, "Band structures and alignment properties in ^{74}Se," *Phys. Rev.* C**57** (1998) 2912.

44. J.A. Sheikh, Y. Sun and P.M. Walker, "Projected shell model analysis of the titled rotation," *Phys. Rev.* C**57** (1998) R26.

45. V. Velázquez, J. Hirsch and Y. Sun, "Self-consistency in the projected shell model," *Nucl. Phys.* A**643** (1998) 39.

46. J. Hirsch, J. Draayer, Y. Sun, *et al.,* "Shell model calculations for heavy deformed nuclei," *Czech. Journ. Phys.*, **48** (1998) 183.

47. Y. Sun, J.-y. Zhang and M. Guidry, "Systematic description of yrast superdeformed bands in even-even mass-190 region," *Phys. Rev. Lett.* **78** (1997) 2321.

48. T.B. Brown, M.A. Riley, R.K. Sheline, Y. Sun, *et al.*, "$\pi g_{9/2}$ structures in odd-odd ^{130}Pr and alignment processes in superdeformed praseodymium nuclei," *Phys. Rev.* C**56** (1997) R1210.

49. C.M. Petrache, Y. Sun, S. Lunardi, D.R. Napoli, P.M. Walker, *et al.*, "High-K bands and oblate-prolate coexistence in ^{134}Nd," *Nucl. Phys.* A**617** (1997) 249.

50. Y. Sun and K. Hara, "Fortran code of projected shell model: Feasible shell model calculations for heavy nuclei," *Comput. Phys. Commun.* **104** (1997) 245.

51. Y. Sun and D. H. Feng, "High spin spectroscopy with the projected shell model," *Phys. Rep.* **264** (1996) 375.

52. Y. Sun, J.-y. Zhang and M. Guidry, Properties of $\Delta I = 4$ bifurcation from the projected shell model," *Phys. Rev.* C**54** (1996) 2967.

53. S.X. Wen, C.X. Yang, Y.Z. Liu, Y. Sun, D.H. Feng, *et al.*, "High spin states in ^{175}Ta: An acute example of delayed crossing frequency," *Phys. Rev.* C**54** (1996) 1015.

54. J.L. Egido, V. Martin, L.M. Robledo and Y. Sun, "E3 transition probabilities in the Pt, Hg and Pb isotopes," *Phys. Rev.* C**53** (1996) 2855.

55. C.M. Petrache, Y. Sun, D. Bazzacco, S. Lunardi, *et al.*, "Multiple dipole bands in ^{136}Nd and their description by projected shell model," *Phys. Rev.* C**53** (1996) R2581.

56. Y. Sun, C.-L. Wu, D.H. Feng, J.L. Egido and M. Guidry, "Identical bands at normal deformation: Necessity to go beyond the mean field," *Phys. Rev.* C**53** (1996) 2227.

57. Y. Sun, J.-y. Zhang, M. Guidry, and D.H. Feng, "The projected shell model and its newest applications to high-spin spectroscopy," *Rev. Mex. Fis.* **42** (1996) 227.

58. Y. Sun, J.-y. Zhang and M. Guidry, "$\Delta I = 4$ bifurcation without explicit fourfold symmetry," *Phys. Rev. Lett.* **75** (1995) 3398.

59. Y. Sun and M. Guidry, "Quantitative description of superdeformed bands with projected shell model," *Phys. Rev.* C**52** (1995) R2844.

60. J.-y. Zhang, Y. Sun, M. Guidry and D.H. Feng, "The statistical distribution of low-spin inertial parameters in normally deformed nuclei," *Phys. Rev.* C**52** (1995) R2330.

61. D.E. Archer, M.A. Riley, S.L. Tabor, J. Simpson, Y. Sun, *et al.*, "Rotational structure in ^{177}Ta," *Phys. Rev.* C**52** (1995) 1326.

62. A. Nordlund, R. Bengtsson, H. Ryde, Y. Sun, G.B. Hagemann, B. Herskind, *et al.*, "Probing the limits of complete spectroscopy in ^{164}Yb," *Nucl. Phys.* A**591** (1995) 117.

63. K. Hara and Y. Sun, "Projected shell model and high spin spectroscopy," *Int. J. Mod. Phys.* E**4** (1995) 637.

64. Y. Sun, S.X. Wen and D.H. Feng, "Anomalous crossing frequency in odd proton nuclei," *Phys. Rev. Lett.* **72** (1994) 3483.

65. Y. Sun, D.H. Feng and S.X. Wen, "Varied signature splitting phenomena in odd proton nuclei," *Phys. Rev.* C**50** (1994) 2351.

66. Y. Sun and J.L. Egido, "Excited bands of ^{168}Yb in an angular momentum projected theory," *Phys. Rev.* C**50** (1994) 1893.

67. Y. Sun and J.L. Egido, "Angular momentum projected description of the yrast line of dysprosium isotopes," *Nucl. Phys.* A**580** (1994) 1.

68. Y. Sun, L.M. Robledo and J.L. Egido, "Calculation of transition probabilities beyond the mean field approximation with angular momentum projection," *Nucl. Phys.* A**570** (1994) 305.

69. L.F. Canto, P. Ring, Y. Sun, J.O. Rasmussen, S.Y. Chu and M.A. Stoyer, "Diabolic effects on nuclear rotational state population in two-neutron transfer," *Phys. Rev.* C**47** (1993) 2836.

70. J.L. Egido, L.M. Robledo and Y. Sun, "On the calculation of transition probabilities with correlated angular momentum projected Wave functions and realistic forces," *Nucl. Phys.* A**560** (1993) 253.

71. K. Hara and Y. Sun, "Studies of high-spin states in rare-earth nuclei using angular momentum projection method (III) Signature splitting in Odd Mass Nuclei," *Nucl. Phys.* A**537** (1992) 77.

72. M.L. Cescato, Y. Sun and P. Ring, "Cranked Hartree-Fock-Bogoliubov calculations for Dy isotopes," *Nucl. Phys.* A**533** (1991) 455.

73. K. Hara and Y. Sun, "Studies of high-spin states in rare-earth nuclei using angular momentum projection method (II) Signature inversion in doubly odd nuclei," *Nucl. Phys.* A**531** (1991) 221.

74. K. Hara and Y. Sun, "Studies of high-spin states in rare-earth nuclei using angular momentum projection method (I) Back-bending and plateau of moment of inertia," *Nucl. Phys.* A**529** (1991) 445.

75. Y. Sun, P. Ring and R.S. Nikam, "Projected Tamm-Dancoff theory for diabolical pair transfer in rotating nuclei," *Z. Phys.* A**339** (1991) 51.

76. K. Hara and Y. Sun, "On the mechanism of backbending and signature inversion," *Z. Phys.* A**339** (1991) 15.

77. R.S. Nikam, P. Ring, Y. Sun, and E.R. Marshalek, "Berry's Phase on a quantized path – An example from nuclear physics," *Phys. Lett.* B**235** (1990) 215.

Quantum Information:

78. G.-L. Long, Y.-S. Li, L. Xiao, C.-C. Tu and Y. Sun, "Phase matching in quantum searching and the improved Grover algorithm," *Nucl. Phys. Rev.* Vol. **21**, No. 2 (2004) 114.

79. G.-L. Long, H.-Y. Yan, Y. Sun, *et al.*, "Quantum mechanical nature in liquid NMR quantum computing," *Commun. Theor. Phys.* (Beijing) **38** (2002) 305.

80. G.-L. Long, L. Xiao and Y. Sun, "Phase matching condition for quantum search with a generalized initial state," *Phys. Lett.* A**294** (2002) 143.

81. L. Xiao, G.-L. Long, H.-Y. Yan and Y. Sun, "Experimental realization of Bruschweiler's algorithm in homo-nuclear system," *J. Chem. Phys.* **117** (2002) 3310.

82. G.-L. Long and Y. Sun, "Efficient scheme for initializing a quantum register with an arbitrary superposed state," *Phys. Rev.* A**64** (2001) 014303.

83. H. Guo, G.-L. Long, Y. Sun and X.-L. Xiu, "A quantum algorithm for finding a Hamilton circuit," *Commun. Theor. Phys.* (Beijing) **35** (2001) 385.

84. G.-L. Long, H.Y. Yan and Y. Sun, "Analysis of density matrix reconstruction in NMR quantum computing," *J. Optics B: Quantum Semiclass. Opt.*, **3** (2001) 376.

85. H. Guo, G.-L. Long and Y. Sun, "Effects of imperfect gate operations in Shor's prime factorization algorithm," *J. Chin. Chem. Soc.* (Taiwan) **48** (2001) 449.

High-Tc Superconductivity:

86. M. Guidry, Y. Sun and C.-L. Wu, "Mott insulators, no-double-occupancy, and non-Abelian superconductivity," *Phys. Rev.* B**70**, in press.

87. L.-A. Wu, M. Guidry, Y. Sun and C.-L. Wu, "SO(5) as a critical dynamical symmetry in the SU(4) model of high-temperature superconductivity," *Phys. Rev.* B**67** (2003) 014515.

88. M. Guidry, L.-A. Wu, Y. Sun and C.-L. Wu, "SU(4) model for high-temperature superconductivity and antiferromagnetism," *Phys. Rev.* B**63** (2001) 134516.

Popular Press:

89. A. Aprahamian and Y. Sun, "Nuclear Physics: Long live isomer research," *Nature Physics **1***, (2005) 81.

Seminars and Colloquia

1. “Status of the nuclear astrophysics research,” colloquium at **Department of Physics, Xuzhou Normal University**, Xuzhou, China, June 25, 2004

2. “Nuclear shell model for heavy, deformed systems,” seminar at **Joint Center for Nuclear Physics, Peking University**, Beijing, China, June 23, 2004

3. “Recent progress of shell model applications in nuclear astrophysics,” seminar at **China Institute of Atomic Energy**, Beijing, China, June 22, 2004

4. “Nuclear astrophysics: Physicists unite behind big ideas,” colloquium at **Department of Physics, DePaul University**, Chicago, USA, March 9, 2004

5. “Shell model approach to the nuclear many-Body problem (Part II),” seminar at **Department of Physics, University of Notre Dame**, Notre Dame, USA, Nov. 3, 2003

6. “Shell model approach to the nuclear many-Body problem (Part I),” seminar at **Department of Physics, University of Notre Dame**, Notre Dame, USA, Oct. 27, 2003

7. “Nuclear shell model beyond the fp-shell: Achievement and Improvement,” seminar at **INFN, National Laboratory at Legnaro**, Legnaro, Italy, July 2, 2003

8. “Nuclear astrophysics: A marriage of nuclear physics and astrophysics,” colloquium at **Department of Physics, University of Mississippi**, Oxford, USA, June 11, 2002

9. “Projected shell model and the RIA physics,” seminar at **Physics Division, Argonne National Laboratory**, Argonne, Illinois, USA, April 29, 2002

10. “Projected shell model and the RIA physics,” special seminar at **NSCL, Michigan State University**, East Lansing, USA, Apr. 26, 2002

11. “Current topics on the nuclear astrophysical research,” seminar at **Institute of Theoretical Physics, Academia Sinica**, Beijing, China, Aug. 28, 2001

12. “Multimedia applications in science education,” colloquium at **Department of Natural Sciences, Fayetteville State University**, Fayetteville, USA, April 17, 2001

13. “The projected shell model and nuclear structure near and far from beta-stability,” seminar at **Department of Physics, University of Notre Dame**, Notre Dame, USA, Oct. 9, 2000

14. “Treatment of strongly correlated many-body problems,” seminar at **Institute of Theoretical Physics, Academia Sinica**, Beijing, China, July 13, 2000

15. “From nuclear physics to nuclear astrophysics,” colloquium at **Department of Physics, Xuzhou Normal University**, Xuzhou, China, Oct. 15, 1999

16. “Projected shell model and possible applications in nuclear astrophysics,” seminar at **Institute of Theoretical Physics, Academia Sinica**, Beijing, China, Oct. 12, 1999

17. “Frontier topics in nuclear structure and nuclear astrophysics,” seminar at **China Institute of Atomic Energy**, Beijing, China, Oct. 9, 1999

18. “Collective motion in nuclei,” seminar at **Department of Physics, Hsinghua University**, Beijing, China, Oct. 7, 1999

19. “An SU(4) approach to high-temperature superconductivity and antiferromagnetism,” colloquium at **Department of Physics, Hsinghua University**, Beijing, China, Oct. 7, 1999

20. “A practical approach to shell model calculations for heavy nuclear systems,” seminar at **Department of Physics, Florida State University**, Tallahassee, USA, Nov. 1996

21. “Delta I = 4 bifurcation without explicit fourfold symmetry,” seminar at **Department of Physics and Atmospheric Science, Drexel University**, Philadelphia, USA, June 1995

22. “Superconductivity and the BCS formalism in atomic nuclei,” colloquium at **Department of Physics and Atmospheric Science, Drexel University**, Philadelphia, USA, Oct. 1994

23. “Projected shell model and its general applications,” seminar at **Physics Division and Joint Institute for Heavy Ion Research, ORNL**, Oak Ridge, USA, Oct. 1994

24. “Selected topics in high spin physics,” seminar at **Physics Division and Joint Institute for Heavy Ion Research, ORNL**, Oak Ridge, USA, Oct. 1994

25. “Angular momentum projection and its application to high-spin states,” seminar at **Department of Physics and Astronomy, University of Tennessee**, Knoxville, USA, March 1994

26. “The projected shell model,” seminar at **Department of Physics, University of Pennsylvania**, Philadelphia, USA, Feb. 1994

27. “High-spin studies for normally deformed heavy nuclei,” seminar at **Department of Physics and Astronomy, Rutgers University**, New Brunswick, USA, Jan. 1994

28. “Angular momentum conserved treatment of high-spin phenomena,” seminar at **Department of Mathematical Physics, Lund Institute of Technology**, Lund, Sweden, Oct. 1993

29. “Angular momentum projected Tamm-Dancoff approximation for high-spin states,” seminar at **Instituto de Estructura de la Materia, CSIC**, Madrid, Spain, June 1993

30. “High-spin states with angular momentum projection,” seminar at **Department of Theoretical Physics, Universidad Autonoma de Madrid**, Madrid, Spain, Feb. 1993

31. “Signature inversion in the rare earth nuclei,” seminar at **Institute of Theoretical Physics, Technical University of Munich**, Garching, Germany, May 1991

32. “Backbending, signature inversion and Berry's phase related to band crossings,” seminar at **Department of Mathematical Physics, Lund Institute of Technology**, Lund, Sweden, Nov. 1990

33. “Band crossings in rotating nuclei,” seminar at **Institute of Theoretical Physics, Technical University of Munich**, Garching, Germany, June 1990

34. “Berry's phase and diabolic lines in the cranked single-j shell model,” seminar at **Institute of Theoretical Physics, Technical University of Munich**, Garching, Germany, Feb. 1989

Conference Presentations

1. “Nuclear structure of the exotic mass region along the rp-process path,” poster presentation at **Symposium on nuclei in cosmos VIII**, Vancouver, Canada, July 19 - 23, 2004

2. “Shell model for heavy nuclei,” invited talk at **Workshop on recent advances in nuclear shell model**, ECT*, Trento, Italy, June 29 - July 12, 2003

3. “Shape evolution near the yrast line – A projected shell model study,” talk at **Workshop on nuclear structure physics near the Coulomb barrier: Into the 21th century**, WNSL, Yale University, New Haven, USA, June 12 - 14, 2003

4. “Fingerprints of the triaxial deformation on the electromagnetic transitions,” talk at **2002 Fall Meeting of the American Physical Society**, East Lansing, Michigan, USA, Oct. 9 - 12, 2002

5. “A multi-shell shell model for heavy nuclei,” talk at **2002 Fall Meeting of the American Physical Society**, East Lansing, Michigan, USA, Oct. 9 - 12, 2002

6. “Projected shell model study on nuclei near the N=Z line,” invited talk at **International conference on nuclear structure with large γ-arrays: Status and perspectives**, Legnaro-Padova, Italy, Sept. 23 - 27, 2002

7. “Efficient scheme for initializing a quantum register with an arbitrary superposed state,” talk at **2001 international symposium on quantum information**, Huang-shan Mountain, Anhui, China, Sept. 3 - 8, 2001

8. “Nuclear isomeric states,” invited lecture at **International summer school on subatomic physics**, Beijing, China, Aug. 21 - 25, 2001

9. “Theoretical challenge in understanding the high-K isomers,” invited keynote talk at **2nd isomer workshop**, Telluride, Colorado, USA, May 30 - 31, 2001

10. “The projected shell model,” talk at **Nuclear Physics Town Meeting of Long Range Plan**, Berkeley, California, USA, Nov. 9 - 12, 2000

11. “Current status in nuclear astrophysics research,” invited lecture at **Summer school on nuclear and particle physics**, Beijing, China, July 18 - Aug. 4, 2000

12. “Nuclear astrophysics: A challenging field for nuclear physicists,” series lecture at **Workshop on nuclear astrophysics**, China Center of Advanced Science & Technology, Beijing, China, Oct. 11 - 15, 1999

13. “Symmetries in nuclear and condensed matter fermion systems,” invited talk at **XXII symposium on nuclear physics**, Oaxtepec, Mexico, Jan. 6 - 10, 1999

14. “The projected shell model,” invited talk at **1998 nuclear theory workshop**, Argonne National Laboratory, Argonne, USA, Aug. 1998

15. “Collective excitations on coupled rotations of neutrons and protons,” talk at **1997 Joint Meeting of the American Physical Society and the American Association of Physics Teachers**, Washington D.C., USA, 18 - 21 April 1997

16. “Systematic description of superdeformed band in the mass-190 region,” talk at **International Conference on Nuclear Structure at the Limits**, Argonne National Laboratory, Argonne, USA, July 1996

17. “The projected shell model and its application to high-spin spectroscopy,” invited talk at **XIX Symposium on Nuclear Physics**, Oaxtepec, Mexico, Jan. 1996

18. “Delta I = 4 bifurcation without explicit fourfold symmetry,” talk at **1995 Gordon Conference: Nuclear Chemistry**, New London, USA, June 1995

19. “Quantum chaos with the projected shell model,” talk at **Quantum Classical Correspondence: The 4th Drexel Symposium on Quantum Nonintegrability**, Drexel University, Philadelphia, USA, Sept. 1994

20. “High spin spectroscopy with angular momentum projection,” invited talk at **The Harmony of Physics: Celebrating of 70th birthday of S. Belyaev**, University of Pennsylvania, Philadelphia, USA, May 1994

21. “Angular momentum projected calculation for ^{168}Yb high-spin states,” talk at **1994 April Meeting of the American Physical Society**, Washington D.C., USA, April 1994

22. “High-spin properties of doubly even rare-earth nuclei in the angular momentum projected theory,” talk at **ECT*Workshop on High-Spin and Novel Deformation**, ECT*, Trento, Italy, Nov. 1993

23. “Calculation of transition probabilities beyond the mean field approximation with angular momentum projection,” talk at **International Symposium on Nuclear Structure Physics Today**, Chung Yuan Christian University, Chung-Li, Taiwan, May 1993

24. “Calculation of transition probabilities within the ATDHF + angular momentum projection method in octupole soft nuclei,” talk at **International Symposium on Rapidly Rotating Nuclei 1992**, University of Tokyo, Tokyo, Japan, Oct. 1992

25. “Removal of spurious states in the projected Tamm-Dancoff method,” poster presentation at **International Nuclear Physics Conference**, Wiesbaden, Germany, July 1992

26. “Back bending and signature inversion – Manifestation of band crossing,” talk at **International Conference on High Spin Physics and Gamma-Soft Nuclei**, University of Pittsburgh/Carnegie Mellon, Pittsburgh, USA, Sept. 1990

27. “Treatment of the band crossing by means of projection method,” talk at **European Nuclear Physics Spring Meeting 1990**, Strasbourg, France, March 1990

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