William C. Stwalley
Head and Professor, Department of Physics,
Affiliate Professor of Chemistry and Director
of the University of Connecticut Laser Facility
University of Connecticut

Biography:

Born October 7, 1942, in Glendale, California

Graduated Fullerton Union High School, Fullerton, California, 1960

B. S. California Institute of Technology, 1964 (Chemistry)

Ph.D. Harvard University, 1969 (Physical Chemistry)

Professional Experience:

Leeds and Northrup Foundation Fellow and Teaching Assistant, Harvard University, 1964-65

National Science Foundation Fellow, Harvard University, 1965-68

Assistant Professor of Chemistry, University of Iowa, 1968-72

Associate Professor of Chemistry, University of Iowa, 1972-75

Alfred P. Sloan Fellow, 1972-74

Participant, Workshop on Gas-Phase Molecular Interactions, 1974

Professor of Chemistry, University of Iowa, 1975-93

Associate Program Director for Quantum Chemistry, National Science Foundation, 1975-76 (leave of absence)

National Science Foundation Coordinator, Workshop on the Laser Revolution in Energy-Related Chemistry, 1976

Consultant to the National Science Foundation on Laser Development and Applications, 1976-78

Participant, Meeting of Ad Hoc Panel on Cooperative Efforts and Facilities for Research in Chemistry and Biological Chemistry, National Academy of Sciences, 1976

Chairman, 1978-80, and Vice Chairman, 1976-78, Gordon Conference on Atomic and Molecular Interactions

Consultant on National Resource for Computation in Chemistry proposal, Argonne National Laboratory, 1976

Consultant on National Resource for Computation in Chemistry proposal, Lawrence Berkeley Laboratory, 1976

Participant, Workshop on Theoretical Aspects of Laser Radiation and Its Interaction with Atomic and Molecular Systems, 1977

Affiliate Professor of Physics, University of Iowa, 1977-93

Co-Chairman, Gordon Conference on Nonlinear Optics and Lasers, 1977-79

Organizer, Laser-Induced Chemistry Symposium, American Chemical Society National Meeting, 1978

Director, Iowa Laser Facility, 1978-93

Organizer, Velasco Memorial Symposium on Alkali Metal Spectroscopy, Molecular Spectroscopy Symposium, 1978

Member, Committee on Photochemistry, Laser Institute of America, 1978-80

Consultant and Chemistry Program Review Team Member, Chemistry and Material Science Department, Lawrence Livermore Laboratory, 1978-87

Member, Program Committee, International Quantum Electronics Conference, 1979-80, 1985-86, 1986-87

Member, Program Committee, Sanibel Symposium on Quantum Fluids and Solids, 1978-80

Member, Committee on Atomic and Molecular Science, National Academy of Sciences/National Research Council, 1979-82

Participant, Workshop on Uses of Free-Electron Lasers, Riva del Garda, Italy, 1979

Participant, Workshop to Explore Uses of the Laser Irradiation System at the National Laser Users Facility, University of Rochester, 1979

Co-Organizer, Symposium on High Temperature Chemistry, American Chemical Society National Meeting, Atlanta, 1981

Member, Editorial Board, University of Iowa Press, 1980-85

Executive Committee Member and Alternate Councilor, Division of Physical Chemistry, American Chemical Society, 1981-83

Member, Program Committee, Division of Electron and Atomic Physics, American Physical Society, 1981-83

Member, Program Committee, Lasers ’81 Conference, New Orleans, 1981

Member, Army Research Office Chemistry Advisory Committee, National Academy of Sciences/National Research Council, 1981-84

Organizer, Symposium on Laser Spectroscopy of Small Molecules and Clusters, Lasers ’81 Conference, New Orleans, 1981

Organizer, Session on Spin-Polarized Atoms, American Physical Society National Meeting, Dallas, 1982

Member, Program Committee, Lasers ’82 Conference, New Orleans, 1982

Organizer, Session on Diatomic Optically Pumped Lasers, Lasers ’82 Conference, New Orleans, 1982

Member, American Physical Society E. K. Plyler Prize Committee, 1982

Fellow, Japan Society for Promotion of Science, 1982

Member, Editorial Advisory Board, Journal of Molecular Spectroscopy, 1982-87

Chairman, American Chemical Society Division of Physical Chemistry, Graduate Student Fellowship Program Committee, 1982-83

Fellow, American Physical Society, 1982-present

Member, American Physical Society Division of Chemical Physics, Fellowship Nomination Committee, 1982-83

Member, Air Force Office of Scientific Research Chemistry Evaluation Panel, 1983-86

Co-Organizer, Session on Laser-Induced Chemistry, International Conference on Lasers and Electro-Optics, Los Angeles, 1983

Associate Program Chairman, Lasers ’83 Conference, San Francisco, 1983

Program Chairman, Lasers ’84 Conference, San Francisco, 1984

Secretary/Treasurer, Division of Chemical Physics, American Physical Society, 1984-90

Member, American Physical Society Division of Electron and Atomic Physics, Fellowship Nomination Committee, 1984-85

Co-Founder and Program Chair, International Laser Science Conference, 1984-85

Co-Chair, International Laser Science Conference, 1985-86

Member, Laser/Electro-Optics Technology Advisory Committee, Indian Hills Community College (Ottumwa, Iowa), 1985-91

Member, Steering Committee of the Topical Group on Laser Science of the American Physical Society, 1985-86, 1987-92

Editor (USA), Laser Chemistry, 1985-90

Chairman, Air Force Evaluation Panel on High Energy Density Materials, National Academy of Sciences/National Research Council, 1985-92

Member, President’s Task Force on University Strategies for Future Development of the State, University of Iowa, 1986

Visiting Lecturer, Chinese Academy of Sciences, 1986

Chair, International Laser Science Conference, 1986-87

Editorial Advisory Board, Chemical Physics Letters, 1986-present

Director, Center for Laser Science and Engineering, University of Iowa, 1987-89

Administrative Vice-Chair, International Laser Science Conference, 1987-88

Member, W. F. Meggers Award Committee, Optical Society of America, 1987-88

Member, Joint Council on Quantum Electronics, 1988-90, 1993-96, 2000-03

Fellow, Optical Society of America, 1988-present

Administrative Vice-Chair, Interdisciplinary Laser Science Conference, 1987-91

Member, Committee on Line Spectra of the Elements - Atomic Spectroscopy, National Academy of Sciences/National Research Council, 1988-91

George Glockler Professor of the Physical Sciences, 1988-93

National Science Foundation Sponsored Lecturer, India, 1988

Member, International Council on Quantum Electronics, 1988-90, 1993-96, 2000-03 (Chair, 2000-02)

Visiting Lecturer in Chemistry, National Science Council of Taiwan, 1989

Member, Program Committee, American Physical Society Division of Atomic, Molecular and Optical Physics, 1990-92

Vice Chair/Chair/Ex-Chair, Topical Group on Laser Science, American Physical Society, 1989-92

Member, Fellows and Honorary Members Committee, Optical Society of America, 1990-92

Member, Professional Advisory Board, Iowa City Area Science Center, 1990-93

Member, Committee on Atomic, Molecular and Optical Science, National Academy of Sciences/National Research Council, 1990-91, 1992-96 (Chair 1993-95)

Member, Program Committee, Quantum Electronics and Laser Science Conference, 1991-92, 1998-99

Member, Board of Directors, Iowa City Area Science Center, 1992-93

Member, Fellowship Nomination Committee, Topical Group on Laser Science, American Physical Society, 1991-92

Member, Air Force Steering Committee on High Energy Density Materials, 1992-96

Chair, Committee on the Future of the Interdisciplinary Laser Science Conference, Topical Group on Laser Science, American Physical Society, 1992-93

Member, Organizing Committee, National Research Council Workshop on Data Base Needs for Plasma Processing of Materials, 1993-96

Head, Department of Physics, University of Connecticut, 1993-present

Affiliate Professor of Chemistry, University of Connecticut, 1993-present

Director, University of Connecticut Laser Facility, 1993-present

Member, Review Panel, Ontario Laser and Lightwave Research Centre, 1993-96

Member (Chair 1994-97), Health Sciences Research Division Panel, Oak Ridge National Laboratory, 1993-97

Member, Connecticut Academy of Science and Engineering, 1994-present

Member, Connecticut Academy of Arts and Sciences, 1995-present

Member, U.S. Civilian Research and Development Foundation Physics Review Panel, 1996, 2000

Organizer, Symposia on Molecular Spectroscopy at Very Low Temperatures (2), Interdisciplinary Laser Science Conference, 1996

Member, National Science Foundation Panel for Review of Research Experience for Undergraduates Proposals, 1996, 1999

Member, International Assessors Committee for Review of Canadian Physics Research, and Chair, Subcommittee on General Physics, 1997

Co-Organizer, American Physical Society Congressional Reception and Exhibit, April 1997

Member (Current Chair), Nominating Committee, Connecticut Academy of Science and Engineering, 1996-99

Member, Institute of Materials Science Faculty Advisory Board, University of Connecticut, 1997-present

Member, Review of Reallocation for the Natural Sciences and Engineering Research Council of Canada, 1998

William F. Meggers Award of the Optical Society of America, 1998

Member, International Program Committee, International Conference on Spectral Line Shapes, 1998-

Member (Chair 1999-2000), Schawlow Prize Committee, Division of Laser Science, American Physical Society, 1998-2000

Member, International Scientific Committee, Workshop on Cold Collisions: Formation of Cold Molecules, Les Houches, France, 1998-1999

Visiting Professor, National Science Council of Taiwan, 1999

Chancellor's Research Excellence Award, University of Connecticut, 1999

Member, By Laws Committee, Division of Laser Science, American Physical Society, 1999-2000

Member, Editorial Advisory Board, Physical Review A, 2000-2002

Vice Chair/Chair, H. P. Broida Prize Committee, American Physical Society, 2000-02

Member, Frederic Ives Medal/Jarus W. Quinn Endowment Committee, Optical Society of America, 2000-2002 (Chair 2001-2002)

Co-Organizer, Symposium (four days) on Very Low Temperature Spectroscopy and Dynamics, American Chemical Society Meeting, 2000

Book Review Advisor, Physics Today, 2000-present

Member, International Scientific Committee, Workshops on Ultracold Molecules, 2000-02

Organizer, Symposium on Ultracold Molecules, Interdisciplinary Laser Science Conference, 2001

Record of Publications of William C. Stwalley

1. W. C. Stwalley, A. Niehaus and D. R. Herschbach, "Velocity Dependence of Total Cross Section for Scattering of Hydrogen Atoms from Mercury", Proceedings of the Vth International Conference on Physics of Electronic and Atomic Collisions (Nauka Press, Leningrad, 1967), p. 639-641.

2. W. C. Stwalley and H. L. Kramer, "Long-Range Interactions of Mercury Atoms", J. Chem. Phys. **49**, 5555-5556 (1968).

3. W. C. Stwalley, A. Niehaus and D. R. Herschbach, "Hydrogen-Atom Scattering: Velocity Dependence of Total Collision Cross Sections for Rare Gases and Molecular Hydrogen", J. Chem. Phys. **51**, 2287-2288 (1969).

4. W. C. Stwalley, "The Observability of Orbiting Resonances", Proceedings of the VIth International Conference on Physics of Electronic and Atomic Collisions (MIT Press, Cambridge, Massachusetts, 1969), p. 51-54.

5. W. C. Stwalley, "The Dissociation Energy of the Hydrogen Molecule Using Long-Range Forces", Chem. Phys. Lett. **6**, 241-244 (1970).

6. W. C. Stwalley, "Long-Range Analysis of the Internuclear Potential of Mg_2", Chem. Phys. Lett. **7**, 600-602 (1970).

7. W. C. Stwalley, "Polarizability and Long-Range Interactions of Magnesium Atoms", J. Chem. Phys. **54**, 4517-4518 (1971).

8. W. C. Stwalley, "Semiempirical Correlation of Potential Parameters", J. Chem. Phys. **55**, 170-175 (1971).

9. W. C. Stwalley, "On LeRoy's Assignment of a O_g^+ State in Molecular Iodine", J. Chem. Phys. **56**, 680-681 (1972).

10. W. C. Stwalley, "RKR Potential Curves Directly from a Single Resonance Fluorescence Doublet Series", J. Chem. Phys. **56**, 2485-2486 (1972).

11. W. C. Stwalley, "Potential Energy Curve of the $B\,^1\Sigma_u^+$ State of H_2", J. Chem. Phys. **58**, 536-540 (1973).

12. W. C. Stwalley, "A Semiclassical Inversion Procedure for the Internuclear Distance Dependence of Diatomic Properties", Chem. Phys. Lett. **19**, 337-339 (1973).

13. W. C. Stwalley, "Expectation Values of the Kinetic and Potential Energy of a Diatomic Molecule", J. Chem. Phys. **58**, 3867-3870 (1973).

14. A. C. Allison and W. C. Stwalley, "Comment on Continuity at the Dissociation Threshold in Molecular Absorption", J. Chem. Phys. **58**, 5187-5188 (1973).

15. W. C. Stwalley, "A Potential Inversion Procedure for Orbiting Resonances", Proceedings of the VIIIth International Conference on Physics of Electronic and Atomic Collisions (Belgrade, Yugoslavia, 1973), p. 40-41.

16. K. C. Li and W. C. Stwalley, "Vibrational Levels Near Dissociation in Mg_2 and Long-Range Forces", J. Chem. Phys. **59**, 4423-4427 (1973).

17. K. R. Way and W. C. Stwalley, "Accurate Dissociation Energies from Rotational Predissociation and Long-Range Forces", J. Chem. Phys. **59**, 5298-5303 (1973).

18. W. C. Stwalley, "Atom-Atom Interactions from Spectroscopy", in D. W. Smith and W. B. McRae, editors, Energy, Structure and Reactivity (Wiley, New York, 1973), p. 259-274.

19. W. C. Stwalley, K. R. Way and R. Velasco, "Dissociation Energies of ^{7}LiD", J. Chem. Phys. **60**, 3611-3612 (1974).

20. W. C. Stwalley, "Higher-Order Long-Range Interactions Between Rare Gas and Hydrogen Atoms", J. Chem. Phys. **61**, 3840-3841 (1974).

21. K. R. Way, S. C. Yang and W. C. Stwalley, "A High-Intensity Superthermal Source of Hydrogen Atoms", Proceedings of the IXth International Conference on the Physics of Electronic and Atomic Collisions (University of Washington Press, Seattle, 1975), p. 957-958.

22. W. C. Stwalley, J. B. Togeas, K. R. Way, K. C. Li, T. R. Proctor and W. T. Zemke, "Total Scattering Cross Sections Calculated from Nonscattering Information", Proceedings of the IXth International Conference on the Physics of Electronic and Atomic Collisions (University of Washington Press, Seattle, 1975), p. 1005-1006.

23. W. C. Stwalley, "Mass-Reduced Quantum Numbers: Application to the Isotopic Mercury Hydrides", J. Chem. Phys. **63**, 3062-3080 (1975).

24. W. C. Stwalley, A. Niehaus and D. R. Herschbach, "Hydrogen-Atom Scattering: Energy Dependence of the Total Cross Section for Mercury", J. Chem. Phys. **63**, 3081-3084 (1975).

25. W. C. Stwalley and L. H. Nosanow, "Possible "New" Quantum Systems", Phys. Rev. Lett. **36**, 910-913 (1976).

26. W. C. Stwalley and W. T. Zemke, "The Radiative Properties of Long-Range Molecules", Intl. J. Quantum Chem. **S10**, 223-225 (1976).

27. W. C. Stwalley, "The Dissociation Energy of $^7Li_2$", J. Chem. Phys. **65**, 2038-2040 (1976).

28. K. R. Way, S. C. Yang and W. C. Stwalley, "An Arc-Heated, High Intensity Source of Hydrogen Atoms", Rev. Sci. Instrum. **47**, 1049-1055 (1976).

29. W. C. Stwalley, "Stability of Spin Aligned Hydrogen at Low Temperatures and High Magnetic Fields: New Field Dependent Scattering Resonances and Predissociations", Phys. Rev. Lett. **37**, 1628-1631 (1976).

30. T. R. Proctor and W. C. Stwalley, "The Long-Range Interaction of S-State Alkali Atoms with Rare Gas and Hydrogen Atoms", J. Chem. Phys. **66**, 2063-2073 (1977).

31. W. C. Stwalley, W. T. Zemke, K. R. Way, K. C. Li and T. R. Proctor, "The Potential Energy Curves of the $X^1\Sigma^+$ and $A^1\Sigma^+$ States of LiH", J. Chem. Phys. **66**, 5412-5415 (1977); Erratum **67**, 4785 (1977).

32. W. C. Stwalley, "Predicted Stability Conditions for Gaseous Spin-Aligned Atoms", in S. B. Trickey, E. D. Adams and J. W. Dufty, editors, Quantum Fluids and Solids (Plenum, New York, 1977), p. 293-298.

33. W. C. Stwalley, "Observations on State-Resolved Cross Sections for Long-Range Molecules", P. R. Brooks and E. F. Hayes, editors, ACS Symposium Series **56**, 247-249 (1977).

34. K. C. Li and W. C. Stwalley, "The $A^1\Sigma^+ \rightarrow X^1\Sigma^+$ Bands of the Isotopic Lithium Hydrides", J. Mol. Spectrosc. **69**, 294-318 (1978).

35. W. C. Stwalley, "Long-Range Molecules", Contemp. Phys. **19**, 65-80 (1978).

36. C. Y. R. Wu, J. B. Crooks, S. C. Yang, K. R. Way and W. C. Stwalley, "A Li/Li_2 Supersonic Nozzle Beam", Rev. Sci. Instrum. **49**, 380-382 (1978).

37. Y. K. Hsieh, S. C. Yang, A. C. Tam and W. C. Stwalley, "The Potential Energy Curves of the $X^1\Sigma^+$ and $A^1\Sigma^+$ States of CsH", J. Chem. Phys. **68**, 1448-1452 (1978).

38. G. Das, A. C. Wahl, W. T. Zemke and W. C. Stwalley, "Accurate Ab Initio Potential Curves for the $X^2\Sigma^+$, $A^2\Pi_u$, $a^4\Sigma_u^-$ and $^2\Sigma_u^-$ States of the O_2^- Ion", J. Chem. Phys. **68**, 4252-4259 (1978).

39. W. T. Zemke and W. C. Stwalley, "Radiative Transition Probabilities for the $A^1\Sigma^+$ - $X^1\Sigma^+$ Bands of ^{7}LiH", J. Chem. Phys. **68**, 4619-4627 (1978).

40. W. T. Zemke, J. B. Crooks and W. C. Stwalley, "Radiative and Nonradiative Lifetimes for Vibrational Levels of the $A^1\Sigma^+$ State of ^{7}LiH", J. Chem. Phys. **68**, 4628-4630 (1978).

41. T. R. Proctor and W. C. Stwalley, "The Long-Range Interactions of Metastable Helium Atoms (2^1S, 2^3S) with Rare Gas and Hydrogen Atoms", J. Chem. Phys. **68**, 5292 (1978).

42. W. T. Zemke, K. R. Way and W. C. Stwalley, "Radiative Transition Probabilities for the $B^1\Pi$ - $X^1\Sigma^+$ and $B^1\Pi$ - $A^1\Sigma^+$ Bands of ^{7}LiH", J. Chem. Phys. **69**, 402-408 (1978).

43. W. T. Zemke and W. C. Stwalley, "Radiative Lifetimes for Vibrational Levels of the $B^1\Pi$ State of ^{7}LiH", J. Chem. Phys. **69**, 409-410 (1978).

44. J. B. Crooks, K. R. Way, S. C. Yang, C. Y. R. Wu and W. C. Stwalley, "Photon and Positive Ion Production from Collisions of Superthermal Hydrogen Atoms with Lithium Atoms and Molecules", J. Chem. Phys. **69**, 490-491 (1978).

45. W. C. Stwalley, S. C. Yang, Y. K. Hsieh, F. B. Orth and K. C. Li, "The Dissociation Energy of CsH", J. Chem. Phys. **69**, 1791-1792 (1978).

46. C. Y. R. Wu, W. C. Stwalley and T. R. Proctor, "Long-Range Interactions of the Thallium $7^2S_{1/2}$ State and Broadening and Shift of the Thallium Violet and Green Lines by Rare Gases", J. Chem. Phys. **69**, 4238-4240 (1978).

47. C. Y. R. Wu and W. C. Stwalley, "Calculated Pressure Broadening and Shift for Alkali Atoms Perturbed by Rare Gases: Two Photon S-S Transitions", Phys. Rev. A **18**, 1066-1071 (1978).

48. C. Y. R. Wu and W. C. Stwalley, "Calculated Pressure Effects on Spectral Lines for Long-Range Interatomic Potentials: Rb and Cs with Heavy Rare Gases", J. Quant. Spectrosc. Radiat. Transfer **20**, 211-215 (1978).

49. W. C. Stwalley, "A Proposed Production Method for Spin-Aligned Hydrogen", J. de Physique **39**, C6-108 - C6-109 (1978).

50. W. C. Stwalley, "Spin-Aligned Hydrogen", in T. N. Veziroglu and W. Seifritz, editors, Hydrogen Energy System (Pergamon Press, Oxford, 1978), Volume 3, p. 1209-1213.

51. W. C. Stwalley, "Laser Manipulation of Metallic Vapors", in Radiation Energy Conversion in Space, K. W. Billman, editor, Volume 61 of Progress in Astronautics and Aeronautics (1978), p. 593-601.

52. W. C. Stwalley, Y. H. Uang and G. Pichler, "Pure Long-Range Molecules", Phys. Rev. Lett. **41**, 1164-1167 (1978).

53. K. C. Li and W. C. Stwalley, "Mass-Reduced Quantum Numbers: Application to the Isotopic Lithium Hydrides ($X^1\Sigma^+$)", J. Chem. Phys. **70**, 1736-1744 (1979).

54. F. B. Orth and W. C. Stwalley, "New Spectroscopic Analyses of the $A^1\Sigma^+$ - $X^1\Sigma^+$ Bands of ^{7}LiH", J. Mol. Spectrosc. **76**, 17-38 (1979).

55. T. R. Proctor and W. C. Stwalley, "Simple Approximations for the Long-Range Interactions of S-State Alkali Atoms with Rare Gas and Hydrogen Atoms", Molec. Phys. **37**, 1969-1974 (1979).

56. M. E. Koch, W. C. Stwalley and C. B. Collins, "The Observation of Bound-Free-Bound Triplet Absorption Bands in Li_2", Phys. Rev. Lett. **42**, 1052-1054 (1979).

57. F. B. Orth, W. C. Stwalley, S. C. Yang and Y. K. Hsieh, "New Spectroscopic Analyses and Potential Energy Curves for the $X^1\Sigma^+$ and $A^1\Sigma^+$ States of NaH", J. Mol. Spectrosc. **79**, 314-322 (1980).

58. W. C. Stwalley and M. E. Koch, "Alkali Metal Vapors: Laser Spectroscopy and Applications", Optical Engineering **19**, 71-84 (1980).

59. G. Das, W. T. Zemke and W. C. Stwalley, "The Unusual Behavior of the $A^2\Pi_u$ State of the O_2^- Ion", J. Chem. Phys. **72**, 2327-2331 (1980).

60. S. C. Yang, Y. K. Hsieh, K. K. Verma and W. C. Stwalley, "The RKR Potential Energy Curves for the $X^1\Sigma^+$ and $A^1\Sigma^+$ States of KH", J. Mol. Spectrosc. **83**, 304-310 (1980).

61. Y. K. Hsieh, S. C. Yang, A. C. Tam, K. K. Verma and W. C. Stwalley, "The RKR Potential Energy Curves for the $X^1\Sigma^+$ and $A^1\Sigma^+$ States of RbH", J. Mol. Spectrosc. **83**, 311-316 (1980).

62. R. W. H. Webeler, R. F. Ferrante and W. C. Stwalley, "The University of Iowa Apparatus for Production of Stabilized Atomic Hydrogen", J. de Physique **41**, C7-161 - C7-162 (1980).

63. W. C. Stwalley, Y. H. Uang, R. F. Ferrante and R. W. H. Webeler, "Theoretical Issues Concerning the Stability of Electron Spin-Polarized Hydrogen", J. de Physique **41**, C7-27 - C7-31 (1980).

64. Y. H. Uang and W. C. Stwalley, "Effective Range Theory and Many-Body Perturbation Theory Applied to Electron Spin-Polarized Atomic Hydrogen ($H\uparrow$)", J. de Physique **41**, C7-33 - C7-38 (1980).

65. Y. H. Uang and W. C. Stwalley, "Close-Coupling Calculations of Spin-Polarized Hydrogen-Deuterium Collisions", Phys. Rev. Lett. **45**, 627-630 (1980).

66. W. T. Zemke and W. C. Stwalley, "Radiative Transition Probabilities, Lifetimes and Dipole Moments for All Vibrational Levels in the $X^1\Sigma^+$ State of ^{7}LiH", J. Chem. Phys. **73**, 5584-5590 (1980).

67. S. C. Yang, Y. K. Hsieh, A. C. Tam, W. T. Zemke, K. K. Verma and W. C. Stwalley, "An Investigation of Radiative Transition Probabilities of the $A^1\Sigma^+$ - $X^1\Sigma^+$ Bands of CsH", J. Chem. Phys. **75**, 3679-3683 (1981).

68. Y. H. Uang, R. F. Ferrante and W. C. Stwalley, "Hyperfine Potential Energy Curves of the Heteronuclear Diatomics HD, DT and HT in an External Magnetic Field", J. Chem. Phys. **74**, 6256-6266 (1981).

69. K. K. Verma, T. H. Vu and W. C. Stwalley, "New Observations and Analyses of the Laser-Excited Fluorescence of the $A^1\Sigma_u^+$ - $X^1\Sigma_g^+$ Bands of the Na_2 Molecule", J. Mol. Spectrosc. **85**, 131-149 (1981).

70. W. T. Zemke, K. K. Verma, T. H. Vu and W. C. Stwalley, "An Investigation of the Radiative Transition Probabilities of the $A^1\Sigma_u^+$ - $X^1\Sigma_g^+$ Bands of Na_2", J. Mol. Spectrosc. **85**, 150-176 (1981).

71. Y. H. Uang, R. F. Ferrante and W. C. Stwalley, "Model Calculation of Magnetic-Field-Induced Perturbations and Predissociations in ^{6}Li^{7}Li Near Dissociation", J. Chem. Phys. **74**, 6267-6270 (1981).

72. K. K. Verma, W. C. Stwalley and W. T. Zemke, "Assignment of the Li_2 Optically Pumped Laser Transitions Pumped by the 6471 Å Kr^+ Laser Line", J. Appl. Phys. **52**, 3821-3826 (1981).

73. K. K. Verma, W. C. Stwalley and W. T. Zemke, "Optically Pumped Laser Lines of Na_2 Pumped by Kr^+ (6471 Å) and HeNe (6328 Å) Lasers: Identification of Old Lines and Prediction of Possible New Lines", J. Appl. Phys. **52**, 5419-5425 (1981).

74. C. Y. R. Wu and W. C. Stwalley, "Calculated Pressure Broadening and Shift for the Sodium Atom Perturbed by Rare Gases: II. Two-Photon 3S-nS Transitions (n = 6-9)", Phys. Rev. A **24**, 1117-1119 (1981).

75. K. K. Verma, M. E. Koch and W. C. Stwalley, "New Observations and Mass-Reduced Analyses of the Laser Excited Fluorescence of the $B^1\Pi_u$ - $X^1\Sigma_g^+$ Bands of the ^{6}Li^{7}Li Molecule", J. Mol. Spectrosc. **87**, 548-559 (1981).

76. G. Ennen, Ch. Ottinger, K. K. Verma and W. C. Stwalley, "The $C^1\Pi_u$ - $X^1\Sigma_g^+$ Fluorescence of Li_2 Excited by Ultraviolet Lines of an Argon Ion Laser", J. Mol. Spectrosc. **89**, 413-420 (1981).

77. H. Partridge, S. R. Langhoff, W. C. Stwalley and W. T. Zemke, "Theoretical Study of the Dipole Moment Function of the $A^1\Sigma^+$ State of LiH", J. Chem. Phys. **75**, 2299-2305 (1981).

78. K. K. Verma, J. T. Bahns and W. C. Stwalley, "Laser Induced Fluorescence in Na_2 to Bound Vibrational Levels of the Entire Potential Well and to the Continuum", J. Phys. Chem. **85**, 2884-2886 (1981).

79. K. K. Verma, T. H. Vu and W. C. Stwalley, "Reanalysis of the $C^1\Pi_u$ State of Na_2 Based on UV Argon Ion Laser Fluorescence", J. Mol. Spectrosc. **91**, 325-347 (1982).

80. W. C. Stwalley, M. E. Koch and K. K. Verma, "An Overview of Alkali Metal Vapor Applications", J. L. Gole and W. C. Stwalley, editors, ACS Symposium Series **179**, 397-405 (1982).

81. S. C. Yang and W. C. Stwalley, "Ionic-Covalent Interactions in the Alkali Hydrides", J. L. Gole and W. C. Stwalley, editors, ACS Symposium Series **179**, 241-254 (1982).

82. C. R. Vidal and W. C. Stwalley, "The $A^1\Sigma^+$ - $X^1\Sigma^+$ System of the Isotopic Lithium Hydrides: The Molecular Constants, Potential Energy Curves, and Their Adiabatic Corrections", J. Chem. Phys. **77**, 883-898 (1982).

83. W. C. Stwalley, "Simple Long-Range Model and Scaling Relations for the Binding of Isotopic Hydrogen Atoms to Isotopic Helium Surfaces", Chem. Phys. Lett. **88**, 404-408 (1982).

84. Y. H. Uang and W. C. Stwalley, "The Possibility of a $^4He_2$ Bound State, Effective Range Theory, and Very Low Energy He-He Scattering", J. Chem. Phys. **76**, 5069-5072 (1982).

85. A. Rajaei-Rizi, J. T. Bahns, K. K. Verma and W. C. Stwalley, "Optically Pumped Ring Laser Oscillation in the $^6Li_2$ Molecule", Appl. Phys. Lett. **40**, 869-871 (1982).

86. G. A. Baker, M. de Llano, J. Pineda and W. C. Stwalley, "Redetermination of Hard Core Square Well Potential Parameters for Helium using New Constructive Methods for the Ground State of Liquid Helium", Phys. Rev. B **25**, 481-482 (1982).

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