

# Curriculum Vitae - Lorenzo J. Curtis

## Academic Degrees:

Philosophiae Doctor Honoris Causa, University of Lund Sweden, 1999  
Ph.D., University of Michigan (Physics), 1963  
M.S., University of Michigan (Physics), 1961  
B.S., University of Toledo (Engr.Phys.), 1958

## Employment Summary:

Distinguished University Professor, University of Toledo, 1992-present  
Designated "Master Teacher" by College of Arts & Sciences, 1993-present  
Professor of Physics and Astronomy, University of Toledo, 1973-present  
Professor of Engineering Physics, University of Toledo, 1978-present  
Assoc. Prof. Phys. & Astron., Univ. Toledo, 1968-73; Asst. Prof. 1963-68  
Docent in Physics, University of Lund, Lund Sweden, 1976-79

## Visiting Scientist Positions:

University of Mexico, 1965  
Woods Hole Oceanographic Institution, 1967  
Research Institute for Physics, Stockholm, 1970-76  
University of Lyon, France, 1971  
Princeton University Observatory, 1972  
Free University of Berlin, Germany, 1973  
University of Arizona, Tucson Arizona, 1974  
Aarhus University, Denmark, 1977  
Argonne National Laboratory, 1976-present  
Brookhaven National Laboratory, 1961, 1984  
University of Oslo, Oslo Norway, 1990  
University of Notre Dame, 1991-present  
Lund University, Lund Sweden, 1979-present

## Scientific and Professional Societies:

American Physical Society (Fellow)	European Physical Society
Optical Society of America (Fellow)	Svenska Fysikersamfundet
American Association of Physics Teachers	

## Editorships:

Member, Editorial Board, Physical Review A  
Scientific Editor, Physica Scripta

## Honor Societies:

Phi Kappa Phi (Scholastic)	Tau Beta Pi (Engineering)
Sigma Pi Sigma (Physics)	Pi Mu Epsilon (Mathematics)
Sigma Xi (Research)	

**Professional Certification:** Licensed Professional Engineer, State of Ohio

## REFEREED PUBLICATIONS

### 1960's

1. C.T. Coffin, L.J. Curtis, D.I. Meyer, and K.M. Terwilliger, "Mass Spectrum of the 1385 MeV  $\Lambda + \pi^0$  Resonance from 1.5 GeV/c  $\pi^-$  Mesons on Protons" Proc. CERN Conf. on High Energy Physics (Geneva, 1962) pp. 327-9.
2. L.J. Curtis, C.T. Coffin, D.I. Meyer, and K.M. Terwilliger, "Production of the 1385 MeV  $(Y_1^*)^0$  in 1.5 GeV/c  $\pi^0 - p$  Interactions," Phys. Rev. **132**, 1771-8 (1963).
3. C.T. Coffin, L.J. Curtis, D.I. Meyer, and K.M. Terwilliger, "Use of Relative Ionization for Particle Identification in Multitrack Spark Chamber Pictures," Nucl. Instr. Meth. **20**, 156-60 (1963).
4. L.J. Curtis, "A Diagrammatic Mnemonic for Calculation of Cascading Level Populations," Am. J. Phys. **36**, 1123-8 (1968).

### 1970

5. L.J. Curtis, R.M. Schectman, J.L. Kohl, D.A. Chojnacki, and D.R. Shoffstall, "New Cascade Analysis Techniques for Determining Spontaneous Atomic Transition Probabilities," Nucl. Instr. Meth. **90**, 207-16 (1970).
6. L.J. Curtis, H.G. Berry, and J. Bromander, "Analysis of Multiexponential Decay Curves," Physica Scripta **2**, 216-20 (1970).
7. R.M. Schectman, L.J. Curtis, C. Strecker and K. Kormanyos, "The University of Toledo Beam-Foil Facility," Nucl. Instr. Meth. **90**, 197-201 (1970).
8. W.H. Smith, J. Bromander, L.J. Curtis, and R. Buchta, "Radiative Lifetimes of Some Ultraviolet Transitions of N I and N II," Physica Scripta **2**, 211-2 (1970).

### 1971

9. L.J. Curtis, H.G. Berry, and J. Bromander, "A Meanlife Measurement of the 3d  $^2D$  Resonance Doublet in Si II by a Technique which Exactly Accounts for Cascading," Phys. Lett. **34A**, 169-70 (1971).
10. L.J. Curtis, I. Martinson, and R. Buchta, "Meanlives of Excited Levels P I - P IV," Physica Scripta **3**, 197-202 (1971).
11. J.L. Kohl, L.J. Curtis, D.A. Chojnacki and R.M. Schectman, "A Convenient Technique for Determining the Relative Quantum Efficiency of a Monochromator and Detection System," Applied Optics **10**, 34-37 (1971).
12. W.H. Smith, J. Bromander, L.J. Curtis, H.G. Berry, and R. Buchta, "Lifetime Measurements and Absolute Oscillator Strengths for Some Vacuum Ultraviolet Transitions in O I and O II," Astrophys. J. **165**, 217-21 (1971).
13. H.G. Berry, I. Martinson, L.J. Curtis, and L. Lundin, "Lifetimes of Some Doubly Excited Levels in Neutral Helium," Phys. Rev. A **3**, 1934-7 (1971).
14. H.G. Berry, J. Bromander, L.J. Curtis, and R. Buchta, "Lifetime Measurements in Si II, Si III and Si IV," Physica Scripta **3**, 125-32 (1971).

15. R. Buchta, L.J. Curtis, I. Martinson, and J. Brzozowski, "Radiative Lifetimes in Sc I - Sc III," *Physica Scripta* **4**, 55-9 (1971).
16. J.L. Kohl, L.J. Curtis, R.M. Schectman, and D.A. Chojnacki, "Method of Incorporating Cascade Decay Curves into Atomic Transition Probability Measurements," *J. Opt. Soc. Am.* **61**, 1656-9 (1971).
17. L.J. Curtis, "Application of Several New Methods for Extracting Meanlives from Decay Curves," *Proc. 2<sup>nd</sup> European Conf. On Beam-Foil spectroscopy and Connected Topics* (University of Lyon Publ., 1971).

## 1972

18. H.G. Berry, L.J. Curtis, and J.L. Subtil, "Cascade-Induced Alignment Changes in Intensity-Decay Curves," *J. Opt. Soc. Am.* **62**, 771-3 (1972).

## 1973

19. L.J. Curtis, "Predictions of the Early Atomic Meanlife Theory of Wilhelm Wien," *J. Opt. Soc. Am.* **63**, 105-7 (1973).
20. L.J. Curtis, I. Martinson, and R. Buchta, "Meanlife Measurements in Manganese I and II and Thulium II," *Nucl. Instr. Meth.* **110**, 391-4 (1973).
21. I. Martinson, L.J. Curtis, J. Brzozowski, and R. Buchta, "Lifetime Measurements in Mn I and Mn II," *Physica Scripta* **8**, 62-6 (1973).
22. R.M. Schectman, L.J. Curtis, and D.A. Chojnacki, "Redetermination of the Meanlife of the  $2p$  Level in Ne I Using Cascade Analysis," *J. Opt. Soc. Am.* **63**, 99-100 (1973).

## 1974

23. L.J. Curtis, "Convolution of a Time-Dependent Driven Excitation into the Decay Curve of an Arbitrarily Cascaded and Blended Level," *J. Opt. Soc. Am.* **64**, 495-7 (1974).
24. L.J. Curtis and W.H. Smith, "Radiative-Lifetime and Absolute-Oscillator-Strength Studies for Some Resonance Transitions of Si I, II and III," *Phys. Rev. A* **9**, 1537-42 (1974).
25. H.G. Berry, L.J. Curtis, D.G. Ellis, and R.M. Schectman, "Anisotropy in the Beam-Foil Source," *Phys. Rev. Lett.* **32**, 751-4 (1974).
26. D.R. Bryant and L.J. Curtis, "A Method for Determining Beam-Foil Excited Hydrogenic Populations from Lyman and Balmer Decay Curves which Exactly Accounts for Cascading," *Z. Physik* **268**, 171-4 (1974).
27. H.G. Berry, S.N. Bhardwaj, L.J. Curtis, and R.M. Schectman, "Orientation and Alignment of Atoms by Beam-Foil Excitation," *Phys. Lett.* **50A**, 59-60 (1974).
28. I. Martinson, A. Gaupp, and L.J. Curtis, "Comments on the Be I  $2s^2\ ^1S - 2s2p\ ^1P$  Transition Probability," *J. Phys. B: Atom. Mol. Phys.* **7**, L463-6 (1974).

## 1975

29. L.J. Curtis, "Simple Formula for the Distortions in a Gaussian Representation of a Poisson Distribution," *Am. J. Phys.* **43**, 1101-3 (1975).
30. H.G. Berry, L.J. Curtis, and R.M. Schectman, "Tests of the Final Surface Electrostatic Inter action in Beam-Tilted-Foil Experiments," *Phys. Rev. Lett.* **34**, 509-12 (1975).

31. H.G. Berry, L.J. Curtis, D.G. Ellis, and R.M. Schectman, "Hyperfine Quantum Beats in Oriented N IV," *Phys. Rev. Lett.* **35**, 274-7 (1975).
32. B. Engman, A. Gaupp, L.J. Curtis, and I. Martinson, "Lifetime Measurements for Excited Levels in Cr II," *Physica Scripta* **12**, 220-2 (1975).

## 1976

32. L.J. Curtis, "Lifetime Measurements," chapter in *Topics in Current Physics: Beam-Foil Spectroscopy*, S. Bashkin, editor (Springer-Verlag, Berlin 1976) pp 63-109.
33. L.J. Curtis, B. Engman, and P. Erman, "High Resolution Lifetime Studies of  $d^3\Pi_g$ ,  $C^1\Pi_g$ , and  $D^1\Sigma_u$  States in  $C_2$  with Applications to Estimates of the Solar Carbon Abundance," *Physica Scripta* **13**, 270-4 (1976).
34. L.J. Curtis, B. Engman, and I. Martinson, "Lifetime Measurements in Cu I and Cu II," *Physica Scripta* **13**, 109-10 (1976).
35. H.G. Berry, L.J. Curtis, D.G. Ellis, and R.M. Schectman, "Spatial Asymmetries in Atomic Collisions," in *Electron and Photon Interactions with Atoms*, eds. Kleinpoppen and McDowell (Plenum Publ. Corp., New York 1976) pp. 515-23.
36. H.G. Berry, L.J. Curtis, D.G. Ellis, R.D. Hight, and R.M. Schectman, "The Surface Interaction in Beam Foil Spectroscopy," in *Beam-Foil Spectroscopy, Vol.2*, I.A. Sellin and D.J. Pegg (Plenum Publ. Corp., New York 1976) pp. 755-71.
37. G. Astner, L.J. Curtis, L. Liljeby, I. Martinson, and J.O. Stoner, Jr., "Measurements of He I Lifetimes and Fine Structure by a Two-Spectrometer Method," in *Beam-Foil Spectroscopy, Vol.1*, eds. I.A. Sellin and D.J. Pegg (Plenum Publ. Corp., New York 1976) pp. 183-90.
38. G. Astner, L.J. Curtis, L. Liljeby, S. Mannervik, and I. Martinson, "A High Precision Beam-Foil Meanlife Measurement of the  $1s3p^1P$  Level in He I," *Z. Physik A* **279**, 1-6 (1976).
39. G. Astner, L.J. Curtis, L. Liljeby, S. Mannervik, and I. Martinson, "Measurements of the  $n^3D_1 - ^3D_2$  ( $n=3-8$ ) Fine Structure Separations in  $^4He$  I by the Beam-Foil Quantum Beat Method," *J. Phys. B: Atom. Mol. Phys.* **9**, L345-8 (1976).
40. R.J.S. Crossley, L.J. Curtis, and C. Froese Fischer, "Discrepancies between Theoretical and Experimental Atomic Oscillator Strengths of the Sodium Isoelectronic Sequence Resonance Transition," *Phys. Lett.* **57A**, 220-2 (1976).
41. H.P. Palenius, L.J. Curtis, and L. Lundin, "Beam-Foil Meanlife Measurements of the  $3d4p^1P$  and  $^3F$  Levels in Sc II," *J. Phys. B: Atom. Mol. Phys.* **9**, L473-6 (1976).
42. L.J. Curtis, "The Dynamics of Spectroscopic Transitions," by J.D. Macomber (Review), *Radiation Effects* **30**, 191-2 (1976).
43. A. Arnesen, B. Bengtsson, L.J. Curtis, R. Hallin, C. Nordling and T. Noreland, "Lifetime Measurement of the Sc II  $3d4p z^3F_2^o$  Level using Ultraviolet Laser Excitation in a Fast Ion Beam," *Phys. Lett.* **56A**, 355-7 (1976).

## 1977

44. L.J. Curtis, "On the  $\alpha Z$  Expansion for the Dirac Energy of a One-Electron Atom," *J. Phys. B: Atom. Mol. Phys.* **10**, L641-5 (1977).

45. L.J. Curtis, "Fine Structure Separations for Resonance Transitions of the Cu I Isoelectronic Sequence," *Phys. Lett.* **64A**, 43-6 (1977).
46. L.J. Curtis, and P. Erman, "Distortion Effects in Measurements of Long Optical Lifetimes," *J. Opt. Soc. Am.* **67**, 1218-30 (1977).
47. L.J. Curtis and P. Erman, "Measurements of Optical Lifetimes  $>1\mu\text{s}$  Using Pulsed Electron Excitation Techniques," *Physica Scripta* **16**, 65-9 (1977).
48. L.J. Curtis, A. Lindgård, B. Edlén, I. Martinson, and S.E. Nielsen, "Energy Levels and Transition Probabilities in Mo XIV," *Physica Scripta* **16**, 72-6 (1977).
49. L.J. Curtis, R. Hallin, J. Lindskog, J. Pihl, and H.G. Berry, "Alignment Effects in Heavy Ionized Beam-Foil Excited Atoms," *Phys. Lett.* **60A**, 297-9 (1977).
50. I. Martinson, L.J. Curtis, P.L. Smith, and E. Biémont, "Oscillator Strengths for Some Mn II Lines," *Physica Scripta* **16**, 35-8 (1977).
51. I. Martinson, L.J. Curtis, and A. Lindgård, "Measurements of Atomic Transition Probabilities in Highly Ionised Atoms by Fast Ion Beams," *Proceed. Culham Conf. on Atomic and Molec. Data for Fusion (IAEA-199, Vienna 1977)* pp. 377-404.

## 1978

52. L.J. Curtis, "Concept of the Exponential Law Prior to 1900," *Am. J. Phys.* **46**, 896-906 (1978).
53. L.J. Curtis and D.G. Ellis, "A Formula for Cancellation Disappearances of Atomic Oscillator Strengths," *J. Phys. B: Atom. Mol. Phys.* **11**, L543-6 (1978).
54. S. Hultdt, L.J. Curtis, B. Denne, L. Engström, K. Ishii, and I. Martinson, "Observation of Strong Orientation Effects for Levels in Highly Ionized Oxygen," *Phys. Lett.* **66A**, 103-5 (1978).

## 1979

55. L.J. Curtis, "Use of Hydrogenic Transition Probabilities for Non-Penetrating Rydberg States with Core Polarisation," *J. Phys. B: Atom. Mol. Phys.* **12**, 509-13 (1978).
56. L.J. Curtis, "Fine Structure Separations for the  $^2D$  Terms of the Cu Isoelectronic Sequence," *Phys. Lett.* **72A**, 427-30 (1979).
57. L.J. Curtis, "Recent Progress in Lifetime Measurements," *J. Physique* **40**, C1-139-46 (1979).
58. R.M. Schectman, L.J. Curtis, and H.G. Berry, "Alignment, Orientation and the Beam Foil Interaction," *J. Physique* **40**, C1-289-94 (1979).
59. S. Hultdt, L.J. Curtis, and R.M. Schectman, "A Convenient Doppler Shift Method for Determining the Velocity of a Fast Ion Beam," *J. Physique* **40**, C1-161-2 (1979).
60. I. Martinson, L.J. Curtis, S. Hultdt, U. Litzén, L. Liljeby, S. Mannervik and B. Jelenkovic, "Lifetimes for Low Lying Levels in Zn I and Zn II," *Physica Scripta* **19**, 17-21 (1979).
61. B. Denne, U. Litzén and L.J. Curtis, "Energies and Lifetimes of the  $4s4d\ ^1D$  and  $4p^2\ ^1D$  in Ga II," *Phys. Lett.* **71A**, 35-8 (1979).

62. L. Engström, B. Denne, S. Huldt, J.O. Ekberg, L.J. Curtis, E. Veje and I. Martinson, "Experimental Transition Probabilities for Intercombination Lines in N IV, O V and F VI," *Physica Scripta* **20**, 88-92 (1979).

### 1980

63. L.J. Curtis, "Dipole Polarizabilities for Single Valence Electron Ions," *Physica Scripta* **21**, 167-4 (1980).
64. L.J. Curtis, and D.G. Ellis, "Alkali Spectra in the Promethium Isoelectronic Sequence," *Phys. Rev. Lett.* **45**, 2099-2102 (1980).
65. L.J. Curtis and D.G. Ellis, "Cancellations in Transition Probabilities of the K I Isoelectronic Sequence," *J. Phys. B: Atom. Mol. Phys.* **13**, L431-5 (1980).
66. L.J. Curtis and I. Martinson, "Recent Progress in Atomic-Structure Investigations with Fast-Ion Beams," *Comments on Atomic and Molecular Physics* **10**, 1-8 (1980).
67. R.M. Schectman, L.J. Curtis, and H.G. Berry, "Alignment, Orientation, and the Beam-Foil Interaction," in *Coherence and Correlation in Atomic Collisions*, eds. H. Kleinpoppen and J.F. Williams, (Plenum Publ. Corp., New York 1980) pp. 387-93.
68. A.E. Livingston, L.J. Curtis, R.M. Schectman, and H.G. Berry, "Energies and Lifetimes of Excited States in Copperlike Kr VIII," *Phys. Rev. A* **21**, 771-81 (1980).
69. A. Lindgård, L.J. Curtis, I. Martinson and S.E. Nielsen, "Semi-Empirical Oscillator Strengths for the Cu I Isoelectronic Sequence," *Physica Scripta* **21**, 47-62 (1980).
70. R.L. Brooks, J.E. Hardis, H.G. Berry, L.J. Curtis, K.T. Cheng, and W. Ray, "Radiation from the Negative Lithium Ion," *Phys. Rev. Lett.* **45**, 1318-22 (1980).
71. R.M. Schectman, R.D. Hight, S.T. Chen, L.J. Curtis, H.G. Berry, T.J. Gay, and R. DeSerio, "Orientation and Alignment of the  $3p\ ^1P$  and  $4d\ ^1D$  Levels in Neutral Helium," *Phys. Rev. A* **22**, 1591-9 (1980).
72. B. Denne, L. Engström, S. Huldt, J.O. Ekberg, L.J. Curtis, K. Ishii, E. Veje and I. Martinson, "Beam-Foil Studies of Multiply Ionized Oxygen," *Physica Scripta* **21**, 151-4 (1980).

### 1981

73. L.J. Curtis, "Theoretical Estimates of Quadrupole Polarization and Dynamical Correlation Effects in Single-Valence-Electron Ions," *Phys. Rev. A* **23**, 362-5 (1981).
74. L.J. Curtis, "An Explicit Empirical Formula for Fine-Structure Separations of  $^2P^o$  and  $^2D$  Terms for Ions in the Cu Isoelectronic Sequence," *J. Phys. B: Atom. Mol. Phys.* **14**, 631-40 (1981).
75. L.J. Curtis, "A Semi-Classical Formula for the Term Energy of a Many Electron Atom," *J. Phys. B: Atom. Mol. Phys.* **14**, 1373-86 (1981).
76. L.J. Curtis, "Cancellations in Atomic Dipole Transition Moments in the Cu Isoelectronic Sequence," *J. Opt. Soc. Am.* **71**, 566-8 (1981).
77. L.J. Curtis, and P.S. Ramanujam, "Semi-Empirical Calculations of Fine Structure Splittings and Ionisation Potentials in the Mg I Isoelectronic Sequence," *Physica Scripta* **23**, 1043-6 (1981).
78. L.J. Curtis and P.S. Ramanujam, "Semiclassical Parameterization of the  $l \geq 3$  Energy Levels in Cs I," *J. Opt. Soc. Am.* **71**, 1315-7 (1981).

## 1982

79. L.J. Curtis, "Semiempirical Regularities in the Spectra and Transition Probabilities of Heavy and Highly Ionised Atoms," Nucl. Instr. Meth. **202**, 333-8 (1982).
80. L.J. Curtis and P.S. Ramanujam, "A Semiclassical Formulation of Term Energies and Electrostatic Intervals in He I," Phys. Rev. A **25**, 3090-6 (1982).
81. L.J. Curtis and P.S. Ramanujam, "Ground State Fine Structures for the B and F Isoelectronic Sequences Using the Extended Regular Doublet Law," Phys. Rev. A **26**, 3672-5 (1982).
82. D.G. Ellis, and L.J. Curtis, "Closed N-Shell Alkali Spectra," Nucl. Instr. Meth. **202**, 339-40 (1982).
83. B.M. Johnson, K.W. Jones, T.H. Kruse, L.J. Curtis and D.G. Ellis, "Search for Promethium-like Gold Lines and Other Transitions of Interest to Fusion Research," Nucl. Instr. Meth. **202**, 53-8 (1982).

## 1983

84. L.J. Curtis and P.S. Ramanujam, "Isoelectronic Wavelength Predictions for the Magnetic Dipole, Electric Quadrupole, and Intercombination Transitions in the Mg Sequence," J. Opt. Soc. Am. **73**, 979-84 (1983).
85. L.J. Curtis and P.S. Ramanujam, "Isoelectronic Predictions for Ground State  $^2P$  Fine Structures Using the Extended Regular Doublet Law," Physica Scripta **27**, 417-21 (1983).
86. L.J. Curtis, P.S. Ramanujam, and C.E. Theodosiou, "Semiclassical Parametrization of the  $6snh - 6sni - 6snk$  Intervals in Ba I," Phys. Rev. A **28**, 1151-3 (1983).
87. J.E. Hardis, L.J. Curtis, P.S. Ramanujam, A.E. Livingston, and R.L. Brooks, "Measurement of the Transition Probability of the  $2s^2\ ^1S_0 - 2s3p\ ^3P_1$  Intercombination Line in Ne VII," Phys. Rev. A **27**, 257-61 (1983).

## 1984

88. L.J. Curtis, "Lifetime Measurements in Highly Ionised Atoms," Physica Scripta **T8**, 77-83(1984).
89. L.J. Curtis and R.R. Silbar, "Self-Consistent Core Potentials for Complex Atoms: A Semi-classical Approach," J. Phys. B: Atom. Molec. Phys. **17**, 4087-101 (1984).
90. L.J. Curtis, J. Reader, S.J. Goldsmith, B. Denne and E. Hinnov, "  $4s^24p\ ^2P$  Intervals in the Ga Isoelectronic Sequence from  $Rb^{6+}$  to  $In^{18+}$  " Phys. Rev. A **29**, 2248-50 (1984).
91. L.J. Curtis, I. Martinson, J.A. Leavitt, D.D. Dietrich, S. Bashkin and B. Denne, "Wavelength of the  $4s^2\ ^1S - 4s4p\ ^3P$  Intercombination Line in Br VI," Phys. Lett. A **105**, 212-4 (1984).
92. J.A. Hardis, H.G. Berry, L.J. Curtis, and A.E. Livingston, "The  $1s2s2p^2\ ^2P_{1,2,3} - 1s2p^3\ ^5S^{\circ}_2$  Transition in Ne VII," Physica Scripta **30**, 189-93 (1984).
93. A.E. Livingston, J.E. Hardis, L.J. Curtis, R.L. Brooks and H.G. Berry, "Observation of Quartet State Fine Structure and Lifetimes in Lithium-like Ne VIII," Phys. Rev. A **30**, 2089-92 (1984).
94. H. Cederquist, S. Mannervik, M. Kisielinski, P. Forsberg, I. Martinson, L.J. Curtis and P.S. Ramanujam, "Lifetimes of Some Excited Levels in Cu I and Cu II," Physica Scripta **T8**, 104-6 (1984).

## 1985

95. L.J. Curtis, "Semiempirical Methods for Systematization of High Precision Atomic Data," Comments on Atomic and Molecular Physics **16**, 1-19 (1985).
96. L.J. Curtis, Isoelectronic Studies of the  $4s4p\ ^3P_J$  Energy Levels in the Zn Sequence," J. Opt. Soc. Am. B **2**, 407-10 (1985).
97. L.J. Curtis, "Some Current Problems in Beam Foil Spectroscopy," Nucl. Instr. Meth. in Phys. Res. B **9**, 565-71 (1985).
98. L.J. Curtis, "Explicit Functional Approximation for the  $\alpha Z$  Dependence of Self-Energy Radiative Corrections in Hydrogenlike Atoms," J. Phys. B: Atom. Molec. Phys. **18**, L651-6 (1985).
99. E. Träbert and L.J. Curtis, "Comment on Fine Structure Data of Three-Electron Quartet States," Physica Scripta **32**, 599-601 (1985).

## 1986

100. L.J. Curtis, Isoelectronic Studies of the  $5s^2\ ^1S_0 - 5s5p\ ^1,^3P_J$  Intervals in the Cd Sequence," J. Opt. Soc. Am. **3**, 177-82 (1986).
101. L.J. Curtis, "Alkaline Earthlike Spectra in Highly Ionized Members of the Sm Isoelectronic Sequence," J. Opt. Soc. Am. B **3**, 1102-6 (1986).

## 1987

102. L.J. Curtis, "Fine-structure Intervals for the Lowest P terms in the Cu, Zn, Ga, and Br Isoelectronic Sequences for  $Z \leq 92$ ," Phys. Rev. A **35**, 2089-5 (1987).
103. L.J. Curtis, "Bengt Edlén's Handbuch der Physik Article - 26 Years Later," Physica Scripta **35**, 805-10 (1987).
104. L.J. Curtis, R.R. Haar, and M. Kummer, "An Expectation Value Formulation of the Perturbed Kepler Problem," Am. J. Phys. **55**, 627-31 (1987).
105. L.J. Curtis and L.S. Anderson, editors, "Proceedings of Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysics and Fusion Research, Physica Scripta RS **5**, 1-95 (1987).
106. R.R. Haar and L.J. Curtis, "The Thomas Precession Gives  $g_e-1$ , Not  $g_e/2$ ," Am. J. Phys. **55**, 1044-5 (1987).
107. R.R. Haar, L.J. Curtis, N. Reistad, C. Jupén, B.M. Johnson, K.M. Jones and M. Meron, "On the  $3s-3p$  and  $3p-3d$  Transitions in Ne-like Ni XIX," Physica Scripta **35**, 296-9 (1987).

## 1988

108. L.J. Curtis, "Semiempirical Formulations of Spectroscopic Data and Calculations," Nucl. Instr. Meth. in Phys. Res. B **31**, 146-52 (1988).
109. L.J. Curtis, R.R. Haar and I. Martinson, "Multiconfiguration Dirac-Fock Calculations of Energy Levels and Transition Probabilities in Ne-like S VII, Cl VIII and Ar IX," Nucl. Instr. Meth. in Phys. Res. B **31**, 280-3 (1988).
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### 1989

113. L.J. Curtis, "Computation of M1 Decay Rates in Intermediate Coupling Using Empirical Spectroscopic Data," *J. Phys. B: Atomic, Molecular and Optical Physics* **22**, L267-71 (1989).

114. L.J. Curtis, "Semiempirical Confrontations between Theory and Experiment in Highly Ionised Complex Atoms," *Physica Scripta* **39**, 447-57 (1989).

115. L.J. Curtis, "Semiempirical Specification of Singlet-Triplet Mixing Angles, Oscillator Strengths, and  $g$ -factors in  $nsn'l$ ,  $nsn'p^5$ ,  $np^2$ , and  $np^4$  Configurations," *Phys. Rev. A* **40**, 6958-68 (1989).

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