

DONG-SHENG GUO

DEGREE:

Ph.D. in Physics, Illinois Institute of Technology (05/1984)

SPECIAL ACTIVITIES:

Referee, Physical Review Letters and Physical Review A (1991 - Present)

Member, American Physical Society (1984 - Present)

GRANDS AWARDED:

NSF Grant PHY-9603083, \$30,000 (06/1997 - 05/2001): “Atoms in strong laser fields and nonperturbative quantum electrodynamics”.

NASA Grant NAG 5-3660, \$300,000 (11/1996 - 05/2000): “Effects of aerosols and clouds interaction on UV, PRA, and crop yields”.

DOE Grant DE-FG03-94ER20367, \$35,864 (6/1994 - 05/1996) “Unified formulas for electron - Impact excitation cross sections and rates coefficients”

TEACHING EXPERIENCE:

Associate professor teaching both graduate and undergraduate courses, Department of Physics, Southern University and A&M College, Baton Rouge, LA (08/1992 - Present)

RESEARCH EXPERIENCE:

Summer physicist, Lawrence Livermore National Laboratory, Livermore, CA (06/1993 - Present)

Postdoctoral fellow in theoretical atomic physics with Prof. G. W. F. Drake, Department of Physics, University of Windsor, Windsor, Canada (08/1990 - 06/1992)

Research associate in atomic physics and quantum optical physics with Prof. Bernd Crasemann, Department of Physics, University of Oregon, Eugene, OR (09/1986 - 03/1990)

Research associate in theoretical atomic physics with Prof. Walter R. Johnson, Department of Physics, University of Notre Dame, Notre Dame, IN (09/1984 - 09/1986)

RECENT COLLABORATORS:

R. R. Freeman (UC Davis), Y.-S. Wu (U. of Utah), X.-F. Li (Beijing) J. T. Zhang (Shanghai), Z.-Z. Xu (Shanghai)

SELECTED JOURNAL PUBLICATIONS :

1. Jingtao Zhang, Wenqi Zhang, Zhizhan Xu, Xiaofeng Li, Panming Fu, Dong-Sheng Guo, and R. R. Freeman, “The calculation of photoelectron angular distributions with jet-like structure from scattering theory”, *J. Phys. B: At. Mol. Opt. Phys.* **35**, 4809 (2002).
2. D.-S. Guo, R. R. Freeman, Lianghai Gao, Xiaofeng Li, Panming Fu, Taner Edis and A. Troha, , “Spin-other-orbit effect of photon modes”, *J. Phys. B.* **34**, 2983 (2001)
3. D.-S. Guo, R. R. Freeman, and Y.-S. Wu, “Quantum electrodynamic approach to the Volkov-Coulomb Problem”, *J. Phys. A.* **33**, 7955 (2000)
4. L. Gao, X. Li, P. Fu, R. R. Freeman, and D.-S. Guo “Nonperturbative quantum electrodynamics theory of high-order harmonic generation”, *Phys. Rev. A* **61**, 063407 (2000).
5. J. Gao, D.-S. Guo, and Y.-S. Wu, “Resonant above-threshold ionization at quantized laser intensities”, *Phys. Rev. A* **61**, 043406 (2000).
6. M. H. Chen, K. J. Reed, D.-S. Guo, and D. W. Savin, “Dielectronic recombination for boronlike ions”, *Phys. Rev. A* **58**, 4539 (1998).
7. L. Gao, X. Li, P. Fu, and D.-S. Guo, “The phase-difference effect in two-color above-threshold ionization”, *Phys. Rev. A* **58**, 3807 (1998).
8. D.-S. Guo, R. R. Freeman, and Y.-S. Wu,
“The Schrödinger-like equation for a nonrelativistic electron in a photon field of arbitrary intensity”, *Phys. Rev. A* **58**, 521 (1998).
9. J. Gao, B. Bagayoko, and D.-S. Guo, “The ponderomotive four-momentum”, *Can. J. Phys.* **76**, 87 (1998).
10. M. H. Chen, K. J. Reed, D. M. McWilliams, D.-S. Guo, L Barlow, M. Lee, and V. Walker, “K-shell Auger and radiative transitions in the carbon isoelectronic

- sequence”, *At. Data Nucl. Data Tables* **65**, 289 (1997).
11. D.-S. Guo, “Theory of the Kapitza-Dirac effect in strong radiation fields”, *Phys. Rev. A* **53**, 4311 (1996).
 12. D.-S. Guo, “Theory of two-photon emission from atomic inner shells”, *Phys. Rev. A* **36**, 4267 (1987).
 13. D.-S. Guo, “Noniterative method for constructing many-parameter solutions of the Einstein and Einstein-Maxwell field equations”, *J. Math. Phys.* **25**, 2284 (1984).
 14. Y. Chen, D.-S. Guo, and F. J. Ernst, “Charged spinning mass field involving rational functions”, *J. Math. Phys.* **24**, 1564 (1983).
 15. D.-S. Guo and F. J. Ernst, “Electrovac generalization of Neugebauer’s N=2 solution of the Einstein vacuum field equations”, *J. Math. Phys.* **23**, 1359 (1982).