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Education

University of Colorado; Boulder, Colorado - 1977-82
Ph.D. in Physics, 1982
University of Illinois; Champaign-Urbana, Illinois - 1975-76
M.S. in Physics, 1976
University of California; Berkeley, California - 1970-74
B.A. in Physics, 1974; B.A. in Psychology, 1973
University of California; San Diego, California - 1969-70.

Experience

1997-1998, 2006-2007, 2009-present Visiting Professor, Department of Physics,
Temple University.
1997 Visitor (one month) Dept. of Physics, Università di Pisa, Italy.
1994- Professor, Department of Physics, Lehigh University.
1990 Visitor (two months) Dept. of Physics, Universität Kaiserslautern,
Germany.
1989-1994 Associate Professor, Department of Physics, Lehigh University.
1984-1989 Assistant Professor, Department of Physics, Lehigh University.
1982-1984 Research Associate, Dept. of Physics, Princeton University,
Advisor – Dr. Will Happer.
1982 Research Associate, Joint Institute for Laboratory Astrophysics,
University of Colorado. Advisor – Dr. Alan Gallagher.
1978-1982 Research Assistant, Joint Institute for Laboratory Astrophysics,
University of Colorado. Advisor – Dr. Alan Gallagher.
1981 Teaching Assistant, Dept. of Physics, University of Colorado.
1977-1978 Research Assistant, Dept. of Physics, University of Colorado –
Cyclotron.
1975-1977 Teaching Assistant, Dept. of Physics, University of Illinois.

Awards and Honors

Presidential Young Investigator Award 1985.
Alexander von Humboldt Research Fellowship 1990.
Fellow of the American Physical Society 2012.

Publications

1. J. Huennekens, "Collisional and radiative processes in sodium vapor", Ph.D. thesis, University of Colorado (1982).
2. J. Huennekens and A. Gallagher, "Cross sections for energy transfer in collisions between two excited sodium atoms", *Phys. Rev. A* **27**, 771-784 (1983).
3. J. Huennekens and A. Gallagher, "Self-broadening of the sodium resonance lines and excitation transfer between the $3P_{3/2}$ and $3P_{1/2}$ levels", *Phys. Rev. A* **27**, 1851-1864 (1983).
4. J. Huennekens and A. Gallagher, "Resonance broadening of the sodium D lines" in *Spectral Line Shapes Vol. 2*, K. Burnett ed., (Walter de Gruyter and Co., Berlin, 1983) pages 665-678.
5. J. Huennekens and A. Gallagher, "Radiation diffusion and saturation in optically thick Na vapor", *Phys. Rev. A* **28**, 238-247 (1983).
6. J. Huennekens and A. Gallagher, "Associative ionization in collisions between two Na($3P$) atoms", *Phys. Rev. A* **28**, 1276-1287 (1983).
7. M. Ligare, S. Schaefer, J. Huennekens and W. Happer, "Infrared spectroscopy of a dense potassium vapor jet", *Opt. Commun.* **48**, 39-43 (1983).
8. J. Huennekens, S. Schaefer, M. Ligare and W. Happer, "Observation of the lowest triplet transitions $^3\Sigma_g^+ - ^3\Sigma_u^+$ in Na₂ and K₂", *J. Chem. Phys.* **80**, 4794-4799 (1984), *erratum* **83**, 915 (1985).
9. Z. Wu and J. Huennekens, "Predissociation and collisional depopulation of the Cs₂ (E) state", *J. Chem. Phys.* **81**, 4433-4446 (1984).
10. J. Huennekens, Z. Wu and T. G. Walker, "Ionization, excitation of high-lying atomic states, and molecular fluorescence in Cs vapor excited at $\lambda = 455.7$ and 459.4 nm", *Phys. Rev. A* **31**, 196-209 (1985).
11. J. Huennekens, T. G. Walker and S. C. McClain, "Near infrared spectra of the NaK molecule", *J. Chem. Phys.* **83**, 4949-4957 (1985).
12. J. Huennekens, H. J. Park, T. Colbert and S. C. McClain, "Radiation trapping in sodium-noble gas mixtures", *Phys. Rev. A* **35**, 2892-2901 (1987).
13. J. Huennekens, A. Loza, M. Masters, and K. M. Sando, "Near-infrared bound-free emission from the NaK molecule", *J. Chem. Phys.* **88**, 6013-6021 (1988).
14. B. K. Clark, M. Masters and J. Huennekens, "Wave-mixing processes in sodium-potassium vapor", in *Advances in Laser Science Vol. III*, ed. A. C. Tam, J. L. Gole and W. C. Stwalley, (American Institute of Physics, New York, 1988) p. 167-169.
15. B. Keramati, M. Masters and J. Huennekens, "Excitation-transfer collisions in cesium vapor: $\text{Cs}(5D_{5/2}) + \text{Cs}(6S_{1/2}) \rightarrow \text{Cs}(5D_{3/2}) + \text{Cs}(6S_{1/2})$ ", *Phys. Rev. A* **38**, 4518-4526 (1988).
16. B. K. Clark, M. Masters and J. Huennekens, "Wave mixing and amplified spontaneous emission in pure potassium and mixed sodium-potassium vapors", *Appl. Phys. B* **47**, 159-167 (1988).
17. J. Huennekens and T. Colbert, "On radiative transport of the resonance lines of sodium", *J. Quant. Spectrosc. Radiat. Transfer* **41**, 439-446 (1989).
18. B. K. Clark, W. T. Luh and J. Huennekens, "NaK $2^1\Sigma^+ \rightarrow 1^1\Sigma^+$ band optically pumped laser emission near $1.02 \mu\text{m}$ ", *Appl. Phys. B* **49**, 155-161 (1989).

19. W. T. Luh, Y. Li, and J. Huennekens, "830 nm emission in sodium vapor", *Appl. Phys. B* **49**, 349-359 (1989).
20. M. Masters, J. Huennekens, W. T. Luh, L. Li, A. M. Lyyra, K. Sando, V. Zafirooulos, and W. C. Stwalley, "Bound-free $1^3\Pi \rightarrow 1^3\Sigma^+$ emission from the NaK molecule: determination of the $1^3\Sigma^+$ repulsive wall above the dissociation limit", *J. Chem. Phys.* **92**, 5801-5813 (1990).
21. T. Colbert and J. Huennekens, "Radiation trapping under conditions of low to moderate line-center optical depth", *Phys. Rev. A* **41**, 6145-6154 (1990).
22. Z. J. Jabbour, M. S. Malcuit, and J. Huennekens, "Broadly tunable near-infrared six-wave mixing processes in potassium vapor", *Appl. Phys. B* **52**, 281-289 (1991).
23. T. Colbert and J. Huennekens, "Radiation trapping in the far wings of the foreign-gas broadened potassium resonance lines", *Phys. Rev. A* **44**, 4753-4756 (1991).
24. A. Sasso, W. Demtröder, T. Colbert, C. Wang, E. Ehrlacher, and J. Huennekens, "Radiative lifetimes, collisional mixing, and quenching of the cesium $5D_J$ levels", *Phys. Rev. A* **45**, 1670-1683 (1992).
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26. H. Sun and J. Huennekens, "Spin-orbit perturbations between the $A(2)^1\Sigma^+$ and $b(1)^3\Pi_0$ states of NaK", *J. Chem. Phys.* **97**, 4714-4722 (1992).
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28. E. Ehrlacher and J. Huennekens, "Excitation transfer among, and quenching of, the barium $6s5d\ ^3D_J$ metastable levels due to collisions with argon, nitrogen, and barium perturbers", *Phys. Rev. A* **50**, 4786-4793 (1994).
29. J. Huennekens, R. K. Namiotka, J. Sagle, Z. J. Jabbour, and M. Allegrini, "Thermalization of velocity-selected excited-state populations by resonance exchange collisions and radiation trapping", *Phys. Rev. A* **51**, 4472-4482 (1995).
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54. H. Salami, T. Bergeman, B. Beser, J. Bai, E. H. Ahmed, S. Kotochigova, A. M. Lyyra, J. Huennekens, C. Lisdat, A. V. Stolyarov, O. Dulieu, P. Crozet, and A. J. Ross, "Spectroscopic observations, spin-orbit functions, and coupled channels deperturbation analysis of data on the $A^1\Sigma_u^+$ and $b^3\Pi_u$ states of Rb₂", *Phys. Rev. A* **80**, 022515 (14 pages) (2009).
55. A. D. Wilkins, L. Morgus, J. Huennekens, and A. P. Hickman, "Effects of spin-orbit coupling on the coupled $3^3\Pi$ and $4^3\Pi$ excited states of NaK", *J. Mol. Spectrosc.* **258**, 13-19 (2009).
56. B. M. McGeehan, S. Ashman, C. M. Wolfe, R. Steinhardt, M. L. Monaco, J. Huennekens, and A. P. Hickman, "NaK bound-free and bound-bound $4^3\Sigma^+ \rightarrow a^3\Sigma^+$ emission", *J. Mol. Spectrosc.* **265**, 74-80 (2011).
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60. E. H. Ahmed, S. Ingram, T. Kirova, O. Salihoglu, J. Huennekens, J. Qi, Y. Guan, and A. M. Lyyra, "Quantum control of the spin-orbit coupling interaction using the AC Stark effect", *Phys. Rev. Lett.* **107**, 163601 (5 pages) (2011).
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63. E. H. Ahmed, X. Pan, J. Huennekens, and A. M. Lyyra, “Optical control of collisional population flow between molecular electronic states of different spin multiplicity”, *Phys. Rev. A* **89**, 061401(R) (5 pages) (2014).