



Stephen E. Harris

Kenneth and Barbara Oshman Professor in the School of Engineering and
Professor of Applied Physics, Emeritus
Electrical Engineering

Bio

BIO

Harris' interests include lasers, quantum electronics, atomic physics, and nonlinear optics.

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Electrical Engineering

HONORS AND AWARDS

- Member, National Academy of Engineering
- Member, American Academy of Arts and Sciences
- Member, National Academy of Sciences

PROFESSIONAL EDUCATION

- PhD, Stanford University (1963)

LINKS

- <https://web.stanford.edu/~seharris/>: <https://web.stanford.edu/~seharris/>

Publications

PUBLICATIONS

- **Electromagnetically induced transparency and quantum heat engines** *PHYSICAL REVIEW A*
Harris, S. E.
2016; 94 (5)
- **X-ray second harmonic generation.** *Physical review letters*
Shwartz, S., Fuchs, M., Hastings, J. B., Inubushi, Y., Ishikawa, T., Katayama, T., Reis, D. A., Sato, T., Tono, K., Yabashi, M., Yudovich, S., Harris, S. E.
2014; 112 (16): 163901-?
- **X-Ray Second Harmonic Generation** *PHYSICAL REVIEW LETTERS*
Shwartz, S., Fuchs, M., Hastings, J. B., Inubushi, Y., Ishikawa, T., Katayama, T., Reis, D. A., Sato, T., Tono, K., Yabashi, M., Yudovich, S., Harris, S. E.
2014; 112 (16)
- **X-ray and optical wave mixing** *NATURE*
Glover, T. E., Fritz, D. M., Cammarata, M., Allison, T. K., Coh, S., Feldkamp, J. M., Lemke, H., Zhu, D., Feng, Y., Coffee, R. N., Fuchs, M., Ghimire, S., Chen, et al

2012; 488 (7413): 603-?

- **A miniature ultrabright source of temporally long, narrowband biphotons** *APPLIED PHYSICS LETTERS*
Chuu, C., Yin, G. Y., Harris, S. E.
2012; 101 (5)
- **X-Ray Parametric Down-Conversion in the Langevin Regime** *PHYSICAL REVIEW LETTERS*
Shwartz, S., Coffee, R. N., Feldkamp, J. M., Feng, Y., Hastings, J. B., Yin, G. Y., Harris, S. E.
2012; 109 (1)
- **Anthony E. Siegman: Laser pioneer, Optical Society president, friend, and colleague** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Harris, S. E.
2012; 109 (5): 1379-1379
- **Ultrabright backward-wave biphoton source** *PHYSICAL REVIEW A*
Chuu, C., Harris, S. E.
2011; 83 (6)
- **Polarization Entangled Photons at X-Ray Energies** *PHYSICAL REVIEW LETTERS*
Shwartz, S., Harris, S. E.
2011; 106 (8)
- **Generation and Compression of Chirped Biphotons** *PHYSICAL REVIEW LETTERS*
Sensarn, S., Yin, G. Y., Harris, S. E.
2010; 104 (25)
- **Hiding Single Photons with Spread Spectrum Technology** *PHYSICAL REVIEW LETTERS*
Belthangady, C., Chuu, C., Yu, I. A., Yin, G. Y., Kahn, J. M., Harris, S. E.
2010; 104 (22)
- **Observation of Nonlocal Modulation with Entangled Photons** *PHYSICAL REVIEW LETTERS*
Sensarn, S., Yin, G. Y., Harris, S. E.
2009; 103 (16)
- **Modulation and measurement of time-energy entangled photons** *PHYSICAL REVIEW A*
Belthangady, C., Du, S., Chuu, C., Yin, G. Y., Harris, S. E.
2009; 80 (3)
- **Resonant Sum Frequency Generation with Time-Energy Entangled Photons** *PHYSICAL REVIEW LETTERS*
Sensarn, S., Ali-Khan, I., Yin, G. Y., Harris, S. E.
2009; 102 (5)
- **Observation of optical precursors at the biphoton level** *OPTICS LETTERS*
Du, S., Belthangady, C., Kolchin, P., Yin, G. Y., Harris, S. E.
2008; 33 (18): 2149-2151
- **Electro-optic modulation of single photons** *PHYSICAL REVIEW LETTERS*
Kolchin, P., Belthangady, C., Du, S., Yin, G. Y., Harris, S. E.
2008; 101 (10)
- **Nonlocal modulation of entangled photons** *PHYSICAL REVIEW A*
Harris, S. E.
2008; 78 (2)
- **Subnatural linewidth biphotons with controllable temporal length** *PHYSICAL REVIEW LETTERS*
Du, S., Kolchin, P., Belthangady, C., Yin, G. Y., Harris, S. E.
2008; 100 (18)
- **Generation of Biphotons with Controllable Temporal Length** *2008 CONFERENCE ON LASERS AND ELECTRO-OPTICS & QUANTUM ELECTRONICS AND LASER SCIENCE CONFERENCE, VOLS 1-9*

- Belthangady, C., Du, S., Kolchin, P., Yin, G. Y., Harris, S. E.
2008; 3277-3278
- **Chirp and compress: Toward single-cycle biphotons** *PHYSICAL REVIEW LETTERS*
Harris, S. E.
2007; 98 (6)
 - **Molecular modulation in a hollow fiber** *OPTICS LETTERS*
Sensarn, S., Goda, S. N., Yin, G. Y., Harris, S. E.
2006; 31 (19): 2836-2838
 - **Generation of narrow-bandwidth paired photons: Use of a single driving laser** *PHYSICAL REVIEW LETTERS*
Kolchin, P., Du, S., Belthangady, C., Yin, G. Y., Harris, S. E.
2006; 97 (11)
 - **Coherent control of laser-induced breakdown** *OPTICS LETTERS*
Shverdin, M. Y., Goda, S. N., Yin, G. Y., Harris, S. E.
2006; 31 (9): 1331-1333
 - **Measurement of Fourier-synthesized optical waveforms** *OPTICS LETTERS*
Goda, S. N., Shverdin, M. Y., Walker, D. R., Harris, S. E.
2005; 30 (10): 1222-1224
 - **Generation of paired photons with controllable waveforms** *PHYSICAL REVIEW LETTERS*
Balic, V., Braje, D. A., Kolchin, P., Yin, G. Y., Harris, S. E.
2005; 94 (18)
 - **Breaking the single-cycle barrier** *PHOTONICS SPECTRA*
Shverdin, M. Y., Walker, D. R., Goda, S. N., Yin, G. Y., Harris, S. E., Yavuz, D. D.
2005; 39 (2): 92-?
 - **Generation of a single-cycle optical pulse** *PHYSICAL REVIEW LETTERS*
Shverdin, M. Y., Walker, D. R., Yavuz, D. D., Yin, G. Y., Harris, S. E.
2005; 94 (3)
 - **Generation and control of femtosecond pulses by molecular modulation** *ITAMP/FOCUS Workshop on Attoscience*
Sokolov, A. V., Shverdin, M. Y., Walker, D. R., Yavuz, D. D., Burzo, A. M., Yin, G. Y., Harris, S. E.
TAYLOR & FRANCIS LTD.2005: 285-304
 - **Single-cycle optical pulse generation** *ULTRAFast PHENOMENA XIV*
Walker, D. R., Shverdin, M., YAVUZ, D., Yin, G. Y., Harris, S. E.
2005; 79: 3-7
 - **Frequency mixing using electromagnetically induced transparency in cold atoms** *PHYSICAL REVIEW LETTERS*
Braje, D. A., Balic, V., Goda, S., Yin, G. Y., Harris, S. E.
2004; 93 (18)
 - **Quasiperiodic Raman technique for ultrashort pulse generation** *PHYSICAL REVIEW LETTERS*
Yavuz, D. D., Walker, D. R., Shverdin, M. Y., Yin, G. Y., Harris, S. E.
2003; 91 (23)
 - **Low-light-level nonlinear optics with slow light** *PHYSICAL REVIEW A*
Braje, D. A., Balic, V., Yin, G. Y., Harris, S. E.
2003; 68 (4)
 - **Ultrashort pulse generation by molecular modulation** *JOURNAL OF OPTICS B-QUANTUM AND SEMICLASSICAL OPTICS*
Sokolov, A. V., Harris, S. E.
2003; 5 (1): R1-R26
 - **Raman self-focusing at maximum coherence** *OPTICS LETTERS*
Walker, D. R., Yavuz, D. D., Shverdin, M. Y., Yin, G. Y., Sokolov, A. V., Harris, S. E.

2002; 27 (23): 2094-2096

- **Control of Feshbach resonances by quantum interference** *PHYSICAL REVIEW A*
Harris, S. E.
2002; 66 (1)
- **Rotational Raman generation with near-unity conversion efficiency** *OPTICS LETTERS*
Yavuz, D. D., Walker, D. R., Yin, G. Y., Harris, S. E.
2002; 27 (9): 769-771
- **Raman technique for single-cycle pulses** *PHYSICAL REVIEW A*
Harris, S. E., Walker, D. R., Yavuz, D. D.
2002; 65 (2)
- **Femtosecond light source for phase-controlled multiphoton ionization** *PHYSICAL REVIEW LETTERS*
Sokolov, A. V., Walker, D. R., Yavuz, D. D., Yin, G. Y., Harris, S. E.
2001; 87 (3)
- **Optical frequency conversion by a rotating molecular wave plate** *OPTICS LETTERS*
Sokolov, A. V., Sharpe, S. J., Shverdin, M., Walker, D. R., Yavuz, D. D., Yin, G. Y., Harris, S. E.
2001; 26 (10): 728-730
- **Light modulation at molecular frequencies** *PHYSICAL REVIEW A*
Sokolov, A. V., Yavuz, D. D., Walker, D. R., Yin, G. Y., Harris, S. E.
2001; 63 (5)
- **Rapid in vivo functional analysis of transgenes in mice using whole body imaging of luciferase expression** *TRANSGENIC RESEARCH*
Zhang, W. S., Feng, J. Q., Harris, S. E., Contag, P. R., Stevenson, D. K., Contag, C. H.
2001; 10 (5): 423-434
- **Collinear light scattering using electromagnetically induced transparency** *XVIIth International Conference on Atomic Physics*
Harris, S. E., Sokolov, A. V., Walker, D. R., Yavuz, D. D., Yin, G. Y.
AMER INST PHYSICS.2001: 189-203
- **Femtosecond light source for phase-controlled atomic processes** *14th Annual Meeting of the IEEE Lasers-and-Electro-Optics-Society*
Harris, S. E., Sokolov, A. V., Walker, D. R., Yavuz, D. D., Yin, G. Y.
IEEE.2001: 669-670
- **Pondermotive forces with slow light.** *Physical review letters*
Harris, S. E.
2000; 85 (19): 4032-5
- **Raman generation by phased and antiphased molecular states** *PHYSICAL REVIEW LETTERS*
Sokolov, A. V., Walker, D. R., Yavuz, D. D., Yin, G. Y., Harris, S. E.
2000; 85 (3): 562-565
- **Efficient nonlinear frequency conversion in an all-resonant double-lambda system** *Physical review letters*
Merriam, A. J., Sharpe, S. J., Shverdin, M., Manuszak, D., Yin, G. Y., Harris, S. E.
2000; 84 (23): 5308-11
- **Eigenvectors of a raman medium** *Physical review letters*
Yavuz, D. D., Sokolov, A. V., Harris, S. E.
2000; 84 (1): 75-8
- **Efficient gas-phase VUV frequency up-conversion** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
Merriam, A. J., Sharpe, S. J., Xia, H., Manuszak, D. A., Yin, G. Y., Harris, S. E.
1999; 5 (6): 1502-1509
- **Nonlinear optics at low light levels** *PHYSICAL REVIEW LETTERS*
Harris, S. E., Hau, L. V.

1999; 82 (23): 4611-4614

- **Efficient gas-phase generation of coherent vacuum ultraviolet radiation** *OPTICS LETTERS*
Merriam, A. J., Sharpe, S. J., Xia, H., Manuszak, D., Yin, G. Y., Harris, S. E.
1999; 24 (9): 625-627
- **Electromagnetically induced transparency with spectator momenta** *PHYSICAL REVIEW A*
Xia, H., Merriam, A. J., Sharpe, S. J., Yin, G. Y., Harris, S. E.
1999; 59 (5): R3190-R3193
- **Subfemtosecond pulse generation by rotational molecular modulation** *OPTICS LETTERS*
Sokolov, A. V., Yavuz, D. D., Harris, S. E.
1999; 24 (8): 557-559
- **Light speed reduction to 17 metres per second in an ultracold atomic gas** *NATURE*
Hau, L. V., Harris, S. E., Dutton, Z., Behroozi, C. H.
1999; 397 (6720): 594-598
- **Photon switching by quantum interference** *PHYSICAL REVIEW LETTERS*
Harris, S. E., Yamamoto, Y.
1998; 81 (17): 3611-3614
- **Subfemtosecond pulse generation by molecular modulation** *PHYSICAL REVIEW LETTERS*
Harris, S. E., Sokolov, A. V.
1998; 81 (14): 2894-2897
- **Nonlinear optics at maximum coherence** *11th International Vavilov Conference on Nonlinear Optics*
Sokolov, A. V., Yin, G. Y., Harris, S. E.
SPIE - INT SOC OPTICAL ENGINEERING.1998: 26-34
- **Nonlinear optics at maximum coherence** *Royal-Society-of-London Discussion Meeting on Highlights in Quantum Optics*
Harris, S. E., Yin, G. Y., Jain, M., Xia, H., Merriam, A. J.
ROYAL SOC.1997: 2291-2304
- **Electromagnetically induced transparency in atoms with hyperfine structure** *PHYSICAL REVIEW A*
Xia, H., Sharpe, S. J., Merriam, A. J., Harris, S. E.
1997; 56 (5): R3362-R3365
- **Electromagnetically induced transparency** *PHYSICS TODAY*
Harris, S. E.
1997; 50 (7): 36-42
- **Broadband spectral generation with refractive index control** *PHYSICAL REVIEW A*
Harris, S. E., Sokolov, A. V.
1997; 55 (6): R4019-R4022
- **Optical parametric oscillators pumped by population-trapped atoms** *OPTICS LETTERS*
Harris, S. E., Jain, M.
1997; 22 (9): 636-638
- **Electromagnetically induced transparency in an ideal plasma** *PHYSICAL REVIEW LETTERS*
Harris, S. E.
1996; 77 (27): 5357-5360
- **Efficient nonlinear frequency conversion with maximal atomic coherence** *PHYSICAL REVIEW LETTERS*
Jain, M., Xia, H., Yin, G. Y., Merriam, A. J., Harris, S. E.
1996; 77 (21): 4326-4329
- **Measurement of Lorentzian linewidths by pulse propagation delay** *PHYSICAL REVIEW A*
KASAPI, A., Yin, G. Y., Jain, M., Harris, S. E.

1996; 53 (6): 4547-4555

- **Nonlinear-optical properties of a noninteracting Bose gas** *OPTICS LETTERS*
Kasevich, M. A., Harris, S. E.
1996; 21 (9): 677-679
- **Femtosecond-pulse-driven 10-Hz 41.8-nm laser in Xe IX** *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS*
Lemoff, B. E., Yin, G. Y., Gordon, C. L., Barty, C. P., Harris, S. E.
1996; 13 (1): 180-184
- **Multiterawatt femtosecond lasers for high field physics** *Tamura Symposium on the Future of Accelerator Physics*
Barty, C. P., Gordon, C. L., Harris, S. E., Lemoff, B. E., Raksi, F., ROSEPETRUCK, C., Wilson, K. R., Yakovlev, V. V., Yamakawa, K., Yin, G. Y.
AMER INST PHYSICS.1996: 310-21
- **Applications of a 30-fs multiterawatt laser .B. Field-ionization-driven, electron-pumped XUV lasers** *12th International Conference on Laser Interaction and Related Plasma Phenomena*
Barty, C. P., Gordon, C. L., Lemoff, B. E., Yin, G. Y., Harris, S. E.
AMER INST PHYSICS.1996: 784-89
- **Electromagnetically induced transparency** *7th Rochester Conference on Coherence and Quantum Optics*
Harris, S. E., Yin, G. Y., KASAPI, A., Jain, M., Luo, Z. F.
PLENUM PRESS DIV PLENUM PUBLISHING CORP.1996: 295-304
- **ELIMINATION OF OPTICAL SELF-FOCUSING BY POPULATION TRAPPING** *PHYSICAL REVIEW LETTERS*
Jain, M., Merriam, A. J., KASAPI, A., Yin, G. Y., Harris, S. E.
1995; 75 (24): 4385-4388
- **FEMTOSECOND-PULSE-DRIVEN ELECTRON-EXCITED EXTREME-ULTRAVIOLET LASERS IN BE-LIKE IONS** *OPTICS LETTERS*
Hooker, S. M., Harris, S. E.
1995; 20 (19): 1994-1996
- **ELECTROMAGNETICALLY INDUCED TRANSPARENCY - PROPAGATION DYNAMICS** *PHYSICAL REVIEW LETTERS*
KASAPI, A., Jain, M., Yin, G. Y., Harris, S. E.
1995; 74 (13): 2447-2450
- **DEMONSTRATION OF A 10-HZ FEMTOSECOND PULSE-DRIVEN XUV LASER AT 41.8-NM IN XE-IX** *PHYSICAL REVIEW LETTERS*
Lemoff, B. E., Yin, G. Y., Gordon, C. L., Barty, C. P., Harris, S. E.
1995; 74 (9): 1574-1577
- **Demonstration of a 10-Hz, 41.8 nm laser** *1995 Annual/8th Annual Meeting of the IEEE Lasers-and-Electro-Optics-Society (LEOS 95)*
Lemoff, B. E., Yin, G. Y., Gordon, C. L., Barty, C. P., Harris, S. E.
IEEE.1995: A319-A320
- **REFRACTIVE-INDEX CONTROL WITH STRONG FIELDS** *OPTICS LETTERS*
Harris, S. E.
1994; 19 (23): 2018-2020
- **FEMTOSECOND-PULSE-DRIVEN, ELECTRON-EXCITED XUV LASERS IN 8-TIMES-IONIZED NOBLE-GASES** *OPTICS LETTERS*
Lemoff, B. E., Barty, C. P., Harris, S. E.
1994; 19 (8): 569-571
- **NORMAL-MODES FOR ELECTROMAGNETICALLY INDUCED TRANSPARENCY** *PHYSICAL REVIEW LETTERS*
Harris, S. E.
1994; 72 (1): 52-55
- **ATOMIC-SCALE TEMPORAL STRUCTURE INHERENT TO HIGH-ORDER HARMONIC-GENERATION** *OPTICS COMMUNICATIONS*
Harris, S. E., Macklin, J. J., Hansch, T. W.
1993; 100 (5-6): 487-490
- **OBSERVATION OF ELECTROMAGNETICALLY INDUCED PHASE-MATCHING** *OPTICS LETTERS*
Jain, M., Yin, G. Y., Field, J. E., Harris, S. E.

1993; 18 (12): 998-1000

- **ELECTROMAGNETICALLY INDUCED TRANSPARENCY WITH MATCHED PULSES** *PHYSICAL REVIEW LETTERS*
Harris, S. E.
1993; 70 (5): 552-555
- **STUDIES OF A 96.9-NM LASER IN NEUTRAL CESIUM** *PHYSICAL REVIEW A*
Barty, C. P., Yin, G. Y., Field, J. E., King, D. A., Hahn, K. H., Young, J. F., Harris, S. E.
1992; 46 (7): 4286-4296
- **MEV X-RAY GENERATION WITH A FEMTOSECOND LASER** *PHYSICAL REVIEW LETTERS*
Kmetec, J. D., Gordon, C. L., Macklin, J. J., Lemoff, B. E., Brown, G. S., Harris, S. E.
1992; 68 (10): 1527-1530
- **ELECTROMAGNETICALLY INDUCED TRANSPARENCY IN SR VAPOR** *10TH INTERNATIONAL CONF ON LASER SPECTROSCOPY (TENICOLS 91) N*
Boller, K. J., Imamoglu, A., Harris, S. E.
WORLD SCIENTIFIC PUBL CO PTE LTD.1992: 295-300
- **OBSERVATION OF ELECTROMAGNETICALLY INDUCED TRANSPARENCY IN COLLISIONALLY BROADENED LEAD VAPOR** *PHYSICAL REVIEW LETTERS*
Field, J. E., Hahn, K. H., Harris, S. E.
1991; 67 (22): 3062-3065
- **116-NM H-2 LASER PUMPED BY A TRAVELING-WAVE PHOTOIONIZATION ELECTRON SOURCE** *PHYSICAL REVIEW LETTERS*
BENEROFE, S. J., Yin, G. Y., Barty, C. P., Young, J. F., Harris, S. E.
1991; 66 (24): 3136-3139
- **OBSERVATION OF ELECTROMAGNETICALLY INDUCED TRANSPARENCY** *PHYSICAL REVIEW LETTERS*
Boller, K. J., Imamoglu, A., Harris, S. E.
1991; 66 (20): 2593-2596
- **LASERS WITHOUT INVERSION - A CLOSED LIFETIME BROADENED SYSTEM** *PHYSICAL REVIEW LETTERS*
Imamoglu, A., Field, J. E., Harris, S. E.
1991; 66 (9): 1154-1156
- **2-HZ 109-NM MIRRORLESS LASER** *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS*
Sher, M. H., BENEROFE, S. J., Young, J. F., Harris, S. E.
1991; 8 (1): 114-116
- **ELECTROMAGNETICALLY INDUCED TRANSPARENCY** *5TH TOPICAL MEETING ON SHORT-WAVELENGTH COHERENT RADIATION : GENERATION AND APPLICATIONS / SPECIAL TOPICAL MEETING ON SOFT-X-RAY PROJECTION LITHOGRAPHY*
Imamoglu, A., Boller, K. J., Harris, S. E.
OPTICAL SOC AMERICA.1991: 257-261
- **NONLINEAR GENERATION OF 104.8-NM RADIATION WITHIN AN ABSORPTION WINDOW IN ZINC** *PHYSICAL REVIEW LETTERS*
Hahn, K. H., King, D. A., Harris, S. E.
1990; 65 (22): 2777-2779
- **NONLINEAR OPTICAL PROCESSES USING ELECTROMAGNETICALLY INDUCED TRANSPARENCY** *PHYSICAL REVIEW LETTERS*
Harris, S. E., Field, J. E., Imamoglu, A.
1990; 64 (10): 1107-1110
- **PHOTO-ELECTRON AND PHOTOIONIZATION PUMPING OF XUV LASERS BY LASER-PRODUCED PLASMAS** *INSTITUTE OF PHYSICS CONFERENCE SERIES*
Barty, C. P., Yin, G. Y., Field, J. E., BENEROFE, S. J., Young, J. F., Harris, S. E.
1990: 21-28
- **INTERFERENCE OF LIFETIME BROADENED RESONANCES - NONRECIPROCAL GAIN AND LOSS PROFILES** *NATO ADVANCED STUDY INST ON NEW FRONTIERS IN QUANTUM ELECTRODYNAMICS AND QUANTUM OPTICS*
Imamoglu, A., Macklin, J. J., Harris, S. E.

PLENUM PRESS DIV PLENUM PUBLISHING CORP.1990: 223-229

- **LASERS WITHOUT INVERSION - INTERFERENCE OF DRESSED LIFETIME-BROADENED STATES** *OPTICS LETTERS*
Imamoglu, A., Harris, S. E.
1989; 14 (24): 1344-1346
- **LASERS WITHOUT INVERSION - INTERFERENCE OF LIFETIME-BROADENED RESONANCES** *PHYSICAL REVIEW LETTERS*
Harris, S. E.
1989; 62 (9): 1033-1036
- **EXTREME-ULTRAVIOLET FLUORESCENCE FROM CORE-EXCITED LEVELS OF NEUTRAL RUBIDIUM** *OPTICS LETTERS*
SPONG, J. K., Imamoglu, A., Kmetec, J. D., Harris, S. E.
1989; 14 (3): 168-170
- **LASER-DEPLETION SPECTROSCOPY OF CORE-EXCITED LEVELS OF NEUTRAL RUBIDIUM** *PHYSICAL REVIEW A*
SPONG, J. K., Imamoglu, A., Buffa, R., Harris, S. E.
1988; 38 (11): 5617-5626
- **12.8-EV LASER IN NEUTRAL CESIUM** *PHYSICAL REVIEW LETTERS*
Barty, C. P., King, D. A., Yin, G. Y., Hahn, K. H., Field, J. E., Young, J. F., Harris, S. E.
1988; 61 (19): 2201-2204
- **MIXED-SPECIES TARGETS FOR FEMTOSECOND-TIME-SCALE X-RAY GENERATION** *PHYSICAL REVIEW LETTERS*
Harris, S. E., Kmetec, J. D.
1988; 61 (1): 62-65
- **OBSERVATION OF SUPER COSTER-KRONIG-PUMPED GAIN IN ZN-III** *OPTICS LETTERS*
Walker, D. J., Barty, C. P., Yin, G. Y., Young, J. F., Harris, S. E.
1987; 12 (11): 894-896
- **SATURATION OF THE XE-III 109-NM LASER USING TRAVELING-WAVE LASER-PRODUCED-PLASMA EXCITATION** *OPTICS LETTERS*
Sher, M. H., Macklin, J. J., Young, J. F., Harris, S. E.
1987; 12 (11): 891-893
- **LASER SPECTROSCOPY OF CORE-EXCITED LEVELS OF NEUTRAL RUBIDIUM** *PHYSICAL REVIEW LETTERS*
SPONG, J. K., Kmetec, J. D., Wallace, S. C., Young, J. F., Harris, S. E.
1987; 58 (25): 2631-2634
- **LOW-ENERGY PUMPING OF A 108.9-NM XENON AUGER LASER** *OPTICS LETTERS*
Yin, G. Y., Barty, C. P., King, D. A., Walker, D. J., Harris, S. E., Young, J. F.
1987; 12 (5): 331-333
- **CORE-EXCITED METASTABLE LEVELS - APPLICATION TO SPECTROSCOPY, TO THE GENERATION OF PICOSECOND EXTREME-ULTRAVIOLET PULSES, AND TO LASERS** *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS*
Harris, S. E., Young, J. F.
1987; 4 (4): 547-562
- **EMISSION-SPECTRA OF QUASIMETASTABLE LEVELS OF ALKALI-METAL ATOMS** *PHYSICAL REVIEW A*
MENDELSON, A. J., Barty, C. P., Sher, M. H., Young, J. F., Harris, S. E.
1987; 35 (5): 2095-2101
- **GRAZING-INCIDENCE ELLIPSOIDAL REFLECTOR FOR LONGITUDINALLY PUMPING SHORT-WAVELENGTH LASERS** *OPTICS LETTERS*
Young, J. F., Macklin, J. J., Harris, S. E.
1987; 12 (2): 90-92
- **PROPOSAL FOR AN EXTREME-ULTRAVIOLET AUGER LASER AT 63.8 NM IN CS-III** *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS*
Walker, D. J., Caro, R. G., Harris, S. E.
1986; 3 (11): 1515-1518
- **IDENTIFICATION AND OSCILLATOR-STRENGTH MEASUREMENT OF THE 109.1-NM TRANSITION IN NEUTRAL CS** *OPTICS LETTERS*

- Pedrotti, K. D., DIMIDUK, D. P., Young, J. F., Harris, S. E.
1986; 11 (7): 425-427
- **SHAKE-UP AS A MECHANISM FOR VACUUM ULTRAVIOLET-LASERS** *OPTICS LETTERS*
Harris, S. E., Caro, R. G.
1986; 11 (1): 10-11
 - **EXTREME-ULTRAVIOLET EMISSION-SPECTRA OF CORE-EXCITED LEVELS IN SODIUM AND MAGNESIUM** *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS*
Pedrotti, K. D., MENDELSON, A. J., Falcone, R. W., Young, J. F., Harris, S. E.
1985; 2 (12): 1942-1947
 - **PROPOSAL FOR AN EXTREME-ULTRAVIOLET SELECTIVE AUTOIONIZATION LASER IN ZN-III** *OPTICS LETTERS*
MENDELSON, A. J., Harris, S. E.
1985; 10 (3): 128-130
 - **LASER SPECTROSCOPY OF NA-I QUARTETS** *PHYSICAL REVIEW A*
Holmgren, D. E., Walker, D. J., King, D. A., Harris, S. E.
1985; 31 (2): 677-683
 - **MEASUREMENT OF LITHIUM AND SODIUM METASTABLE QUARTET ATOMS IN A HOLLOW-CATHODE DISCHARGE** *OPTICS LETTERS*
Holmgren, D. E., Falcone, R. W., Walker, D. J., Harris, S. E.
1984; 9 (3): 85-87
 - **EMISSION AT 1091-A IN NEUTRAL CORE-EXCITED CS** *AIP CONFERENCE PROCEEDINGS*
Holmgren, D. E., Walker, D. J., Harris, S. E.
1984: 496-501
 - **QUASI-METASTABLE QUARTET LEVELS IN ALKALI-LIKE ATOMS AND IONS** *OPTICS LETTERS*
Harris, S. E., Walker, D. J., Caro, R. G., MENDELSON, A. J., Cowan, R. D.
1984; 9 (5): 168-170
 - **USE OF LASER-PRODUCED SOFT X-RAYS FOR THE PRODUCTION OF EXCITED METASTABLE IONS** *PHYSICAL REVIEW A*
Caro, R. G., Wang, J. C., Young, J. F., Harris, S. E.
1984; 30 (3): 1407-1418
 - **GROTRIAN DIAGRAM OF THE QUARTET SYSTEM OF NA-I** *AIP CONFERENCE PROCEEDINGS*
Holmgren, D. E., Walker, D. J., King, D. A., Harris, S. E.
1984: 157-161
 - **THE EXCITATION OF METASTABLE EXTREME ULTRAVIOLET LEVELS** *AIP CONFERENCE PROCEEDINGS*
Caro, R. G., Wang, J. C., Young, J. F., Harris, S. E.
1984: 417-426
 - **NOVEL SHORT-PULSE PHOTO-IONIZATION ELECTRON SOURCE - LI(1S2S2P)P-4-DEGREES DEEXCITATION MEASUREMENTS IN A PLASMA** *PHYSICAL REVIEW LETTERS*
Wang, J. C., Caro, R. G., Harris, S. E.
1983; 51 (9): 767-770
 - **SPONTANEOUS RAMAN-SCATTERING AS A HIGH-RESOLUTION XUV RADIATION SOURCE** *IEEE JOURNAL OF QUANTUM ELECTRONICS*
Rothenberg, J. E., Young, J. F., Harris, S. E.
1983; 19 (12): 1795-1804
 - **SOFT-X-RAY PUMPING OF METASTABLE LEVELS OF LI+** *APPLIED PHYSICS LETTERS*
Caro, R. G., Wang, J. C., Falcone, R. W., Young, J. F., Harris, S. E.
1983; 42 (1): 9-11
 - **PROPOSAL FOR HIGH-POWER RADIATIVE-COLLISIONAL LASERS** *OPTICS LETTERS*
Harris, S. E., Falcone, R. W., OBRIEN, D. M.
1982; 7 (9): 397-398

- **ANTI-STOKES SCATTERING AS AN XUV RADIATION SOURCE AND FLASHLAMP** *AIP CONFERENCE PROCEEDINGS*
Harris, S. E., Young, J. F., Falcone, R. W., Rothenberg, J. E., Willison, J. R., Wang, J. C.
1982; 137-152
- **LASER TECHNIQUES FOR SPECTROSCOPY OF CORE-EXCITED ATOMIC LEVELS** *JOURNAL DE PHYSIQUE*
Harris, S. E., Young, J. F., Falcone, R. W., Rothenberg, J. E., Willison, J. R.
1982; 43 (NC2): 243-254
- **MICROWAVE EXCITATION OF EXCIMER LASERS** *LASER FOCUS WITH FIBEROPTIC TECHNOLOGY*
Young, J. F., Harris, S. E., WISOFF, P. J., MENDELSON, A. J.
1982; 18 (4): 63-67
- **IMPROVED PERFORMANCE OF THE MICROWAVE-PUMPED XECL LASER** *IEEE JOURNAL OF QUANTUM ELECTRONICS*
WISOFF, P. J., MENDELSON, A. J., Harris, S. E., Young, J. F.
1982; 18 (11): 1839-1840
- **XUV-LASERS BY QUARTET TO DOUBLET ENERGY-TRANSFER IN ALKALI ATOMS** *IEEE JOURNAL OF QUANTUM ELECTRONICS*
Rothenberg, J. E., Harris, S. E.
1981; 17 (3): 418-422
- **LASER SPECTROSCOPY OF METASTABLE EXTREME-ULTRAVIOLET LEVELS IN LITHIUM ATOMS AND IONS** *PHYSICAL REVIEW LETTERS*
Willison, J. R., Falcone, R. W., Young, J. F., Harris, S. E.
1981; 47 (25): 1827-1829
- **A MICROWAVE-PUMPED XECL-STAR LASER** *APPLIED PHYSICS LETTERS*
MENDELSON, A. J., Normandin, R., Harris, S. E., Young, J. F.
1981; 38 (8): 603-605
- **HIGH-RESOLUTION EXTREME-ULTRAVIOLET SPECTROSCOPY OF POTASSIUM USING ANTI-STOKES RADIATION** *OPTICS LETTERS*
Rothenberg, J. E., Young, J. F., Harris, S. E.
1981; 6 (8): 363-365
- **LASER-INDUCED CHARGE-TRANSFER COLLISIONS OF CALCIUM-IONS WITH STRONTIUM ATOMS** *PHYSICAL REVIEW A*
Wright, M. D., OBRIEN, D. M., Young, J. F., Harris, S. E.
1981; 24 (4): 1750-1755
- **EMISSION-SPECTRA OF CORE EXCITED EVEN-PARITY 2P STATES OF NEUTRAL LITHIUM** *PHYSICAL REVIEW LETTERS*
Willison, J. R., Falcone, R. W., Wang, J. C., Young, J. F., Harris, S. E.
1980; 44 (17): 1125-1128
- **PROPOSAL FOR A 207-A LASER IN LITHIUM** *OPTICS LETTERS*
Harris, S. E.
1980; 5 (1): 1-3
- **MEASUREMENT OF LARGE CROSS-SECTIONS FOR LASER-INDUCED COLLISIONS** *PHYSICAL REVIEW LETTERS*
Green, W. R., Lukasik, J., Willison, J. R., Wright, M. D., Young, J. F., Harris, S. E.
1979; 42 (15): 970-973
- **OBSERVATION OF A LASER-INDUCED DIPOLE-QUADRUPOLE COLLISION** *OPTICS LETTERS*
Green, W. R., Wright, M. D., Lukasik, J., Young, J. F., Harris, S. E.
1979; 4 (9): 265-267
- **OBSERVATION OF ATOMIC-PAIR ABSORPTION WITH AN INCOHERENT SOURCE** *OPTICS LETTERS*
White, J. C., ZDASIUK, G. A., Young, J. F., Harris, S. E.
1979; 4 (5): 137-139
- **LASER-INDUCED CHARGE-TRANSFER TO AN EXCITED IONIC STATE** *PHYSICAL REVIEW LETTERS*
Green, W. R., Wright, M. D., Young, J. F., Harris, S. E.
1979; 43 (2): 120-123

- **MEASUREMENT OF HE 1S_{2S} S-1(0) ISOTOPIC SHIFT USING A TUNABLE VUV ANTI-STOKES LIGHT-SOURCE** *OPTICS LETTERS*
Falcone, R. W., Willison, J. R., Young, J. F., Harris, S. E.
1978; 3 (5): 162-163
- **OBSERVATION OF RADIATIVE COLLISIONAL FLUORESCENCE** *PHYSICAL REVIEW LETTERS*
White, J. C., ZDASIUK, G. A., Young, J. F., Harris, S. E.
1978; 41 (25): 1709-1712
- **LASER-INDUCED 2-PHOTON BLACKBODY RADIATION IN VACUUM ULTRAVIOLET** *PHYSICAL REVIEW LETTERS*
ZYCH, L. J., Lukasiuk, J., Young, J. F., Harris, S. E.
1978; 40 (23): 1493-1496
- **NUMERICAL-ANALYSIS OF LASER-INDUCED INELASTIC-COLLISIONS** *IEEE JOURNAL OF QUANTUM ELECTRONICS*
Harris, S. E., White, J. C.
1977; 13 (12): 972-978
- **SPONTANEOUS ANTI-STOKES SCATTERING AS A HIGH-RESOLUTION AND PICOSECOND-TIME-SCALE VUV LIGHT-SOURCE** *APPLIED PHYSICS LETTERS*
Harris, S. E.
1977; 31 (8): 498-500
- **EFFECT OF LINEWIDTH ON EFFICIENCY OF 2-PHOTON-PUMPED FREQUENCY-CONVERTERS** *IEEE JOURNAL OF QUANTUM ELECTRONICS*
Stappaerts, E. A., BEKKERS, G. W., Young, J. F., Harris, S. E.
1976; 12 (6): 330-333
- **INELASTIC-COLLISION INDUCED BY INTENSE OPTICAL RADIATION** *PHYSICAL REVIEW LETTERS*
LIDOW, D. B., Falcone, R. W., Young, J. F., Harris, S. E.
1976; 36 (9): 462-464
- **EFFICIENT IR IMAGE UP-CONVERSION IN 2-PHOTON RESONANTLY PUMPED CS VAPOR** *APPLIED PHYSICS LETTERS*
Stappaerts, E. A., Harris, S. E., Young, J. F.
1976; 29 (10): 669-670
- **ISOTOPE SEPARATION BY OPTICALLY PUMPED IONIZING COLLISIONS** *APPLIED PHYSICS LETTERS*
Harris, S. E., LIDOW, D. B.
1975; 26 (3): 104-105
- **MIXED METAL VAPOR-PHASE MATCHING FOR 3RD-HARMONIC GENERATION** *APPLIED PHYSICS LETTERS*
Bloom, D. M., Young, J. F., Harris, S. E.
1975; 27 (7): 390-392
- **3RD HARMONIC-GENERATION IN PHASE-MATCHED ALKALI-METAL VAPORS** *APPLIED PHYSICS LETTERS*
Bloom, D. M., BEKKERS, G. W., Young, J. F., Harris, S. E.
1975; 26 (12): 687-689
- **VACUUM ULTRAVIOLET HOLOGRAPHY** *APPLIED PHYSICS LETTERS*
BJORKLUN, G. C., Harris, S. E., Young, J. F.
1974; 25 (8): 451-452
- **NONLINEAR OPTICAL PROCESSES BY VAN DER WAALS INTERACTION DURING COLLISION** *PHYSICAL REVIEW LETTERS*
Harris, S. E., LIDOW, D. B.
1974; 33 (12): 674-676
- **INFRARED UP-CONVERSION WITH RESONANTLY 2-PHOTON PUMPED METAL VAPORS** *APPLIED PHYSICS LETTERS*
Bloom, D. M., Yardley, J. T., Young, J. F., Harris, S. E.
1974; 24 (9): 427-428
- **RESONANTLY 2-PHOTON PUMPED FREQUENCY CONVERTER** *APPLIED PHYSICS LETTERS*
Harris, S. E., Bloom, D. M.

1974; 24 (5): 229-230

- **GENERATION OF VACUUM ULTRAVIOLET AND SOFT-X-RAY RADIATION USING HIGH-ORDER NONLINEAR OPTICAL POLARIZABILITIES** *PHYSICAL REVIEW LETTERS*
Harris, S. E.
1973; 31 (6): 341-344
- **STIMULATED EMISSION IN MULTIPLE-PHOTON-PUMPED XENON AND ARGON EXCIMERS** *APPLIED PHYSICS LETTERS*
Harris, S. E., Kung, A. H., STAPPAER, E. A., Young, J. F.
1973; 23 (5): 232-234
- **GENERATION OF 1182-Å RADIATION IN PHASE-MATCHED MIXTURES OF INERT-GASES** *APPLIED PHYSICS LETTERS*
Kung, A. H., Young, J. F., Harris, S. E.
1973; 22 (6): 301-302
- **GENERATION OF VACUUM ULTRAVIOLET-RADIATION IN PHASE-MATCHED CD VAPOR** *PHYSICAL REVIEW LETTERS*
Kung, A. H., BJORKLUN, G. C., Young, J. F., Harris, S. E.
1972; 29 (15): 985-?
- **THIRD-HARMONIC GENERATION IN PHASE-MATCHED RB VAPOR** *PHYSICAL REVIEW LETTERS*
Young, J. F., BJORKLUN, G. C., Kung, A. H., Miles, R. B., Harris, S. E.
1971; 27 (23): 1551-?
- **ELECTRONIC TUNING OF A DYE LASER USING ACOUSTO-OPTIC FILTER** *APPLIED PHYSICS LETTERS*
Taylor, D. J., Harris, S. E., NIEH, S. T., Hansch, T. W.
1971; 19 (8): 269-?