PHYSICAL REVIEW A

For editorial and subscription correspondence, please see inside front cover
(ISSN: 1050-2947)

PERIODICALS
Postmaster send address changes to:
American Institute of Physics
Suite 1NO1
2 Huntington Quadrangle
Melville, NY 11747-4502

THIRD SERIES, VOLUME 68, NUMBER 1 ***CONTENTS*** **JULY 2003**

Physical Review A Editorial Policies and Practices iii
Physical Review A Information for Contributors vii
Guidelines for PRA Section Selection x

RAPID COMMUNICATIONS

Quantum information

Unambiguous discrimination of mixed states *(4 pages)* . . . . . 010301(R)
Terry Rudolph, Robert W. Spekkens, and Peter S. Turner

Relativistic Bennett-Brassard cryptographic scheme, relativistic errors, and how to correct them *(4 pages)* . . . 010302(R)
Marek Czachor and Marcin Wilczewski

Nonlocal properties and local invariants for bipartite systems *(4 pages)* . . . . . 010303(R)
Sergio Albeverio, Shao-Ming Fei, Preeti Parashar, and Wen-Li Yang

Atomic and molecular structure and dynamics

Non-Hamiltonian dynamics and trajectory methods in quantum phase spaces *(4 pages)* . . . . . 010501(R)
Jérôme Daligault

Atomic and molecular collisions and interactions

Large-angle elastic resonant and nonresonant scattering of electrons from $B^{3+}(1s^2)$ and $B^{4+}(1s)$ ions:
Comparison of experiment and theory *(4 pages)* . . . . . 010701(R)
T. J. M. Zouros, E. P. Benis, and T. W. Gorczyca

Characterization of elastic scattering near a Feshbach resonance in ^{87}Rb *(4 pages)* . . . . . 010702(R)
Thomas Volz, Stephan Dürr, Sebastian Ernst, Andreas Marte, and Gerhard Rempe

Plasma formation from ultracold Rydberg gases *(4 pages)* . . . . . 010703(R)
T. Pohl, T. Pattard, and J. M. Rost

Atomic and molecular processes in external fields

Mechanical stability of a strongly interacting Fermi gas of atoms *(4 pages)* . . . . . 011401(R)
M. E. Gehm, S. L. Hemmer, S. R. Granade, K. M. O'Hara, and J. E. Thomas

Nonadiabatic dynamics of polyatomic molecules and ions in strong laser fields *(4 pages)* . . . . . 011402(R)
Alexei N. Markevitch, Stanley M. Smith, Dmitri A. Romanov, H. Bernhard Schlegel, Misha Yu. Ivanov, and Robert J. Levis

Copyright 2003 by The American Physical Society

(Continued)

1050-2947(200307)68:1;1-P

PHYSICAL REVIEW A THIRD SERIES, VOLUME 68, NUMBER 1 JULY 2003

Investigation of sub-Doppler cooling in an ytterbium magneto-optical trap *(4 pages)* . . . . . 011403(R)
R. Maruyama, R. H. Wynar, M. V. Romalis, A. Andalkar, M. D. Swallows, C. E. Pearson, and E. N. Fortson

Matter waves

Production of a Fermi gas of atoms in an optical lattice *(4 pages)* . . . . . 011601(R)
G. Modugno, F. Ferlaino, R. Heidemann, G. Roati, and M. Inguscio

Zero-temperature damping of Bose-Einstein condensate oscillations by vortex-antivortex pair creation *(4 pages)* . . . . . 011602(R)
Petr O. Fedichev, Uwe R. Fischer, and Alessio Recati

Unitarity-limited elastic collision rate in a harmonically trapped Fermi gas *(4 pages)* . . . . . 011603(R)
M. E. Gehm, S. L. Hemmer, K. M. O'Hara, and J. E. Thomas

Pulsed Raman output coupler for an atom laser *(4 pages)* . . . . . 011604(R)
J. Ruostekoski, T. Gasenzer, and D. A. W. Hutchinson

Quantum optics, physics of lasers, nonlinear optics

Transition from hexagons to optical turbulence *(4 pages)* . . . . . 011801(R)
Damià Gomila and Pere Colet

ARTICLES

Fundamental concepts

Spin squeezing and pairwise entanglement for symmetric multiqubit states *(6 pages)* 012101
Xiaoguang Wang and Barry C. Sanders

Transient dynamics in magnetic force microscopy for a single-spin measurement *(8 pages)* 012102
G. P. Berman, F. Borgonovi, G. V. López, and V. I. Tsifrinovich

Normal forms and entanglement measures for multipartite quantum states *(7 pages)* 012103
Frank Verstraete, Jeroen Dehaene, and Bart De Moor

Nonlocality of two-mode squeezing with internal noise *(7 pages)* 012104
Sonja Daffer, Krzysztof Wódkiewicz, and John K. McIver

Collisional decoherence reexamined *(16 pages)* 012105
Klaus Hornberger and John E. Sipe

Electron structure of a dipole-bound anion confined in a spherical box *(7 pages)* 012106
S. Ronen

Optimization of a neutron-spin test of the quantum Zeno effect *(8 pages)* 012107
Paolo Facchi, Yoichi Nakaguro, Hiromichi Nakazato, Saverio Pascazio, Makoto Unoki, and Kazuya Yuasa

Unitary relation for the time-dependent SU(1,1) systems *(8 pages)* 012108
Dae-Yup Song

Elementary Aharonov-Bohm system in three space dimensions: Quantum attraction with no classical force *(7 pages)* 012109
Alfred Scharff Goldhaber and Ryan Requist

Moving atom-field interaction: Quantum motional decoherence and relaxation *(8 pages)* 012110
S. Shresta and B. L. Hu

Decoherence of entangled kaons and its connection to entanglement measures *(9 pages)* 012111
Reinhold A. Bertlmann, Katharina Durstberger, and Beatrix C. Hiesmayr

(Continued)

PHYSICAL REVIEW A **THIRD SERIES, VOLUME 68, NUMBER 1** **JULY 2003**

Quantum information

Teleportation and entanglement distillation in the presence of correlation among bipartite mixed states *(7 pages)* 012301
Mitsuru Hamada
Analysis of absorbing times of quantum walks *(9 pages)* 012302
Tomohiro Yamasaki, Hirotada Kobayashi, and Hiroshi Imai
Countering quantum noise with supplementary classical information *(5 pages)* 012303
Jonathan Barrett
Solving the liar detection problem using the four-qubit singlet state *(4 pages)* 012304
Adán Cabello
Quantum inference of states and processes *(7 pages)* 012305
Miroslav Ježek, Jaromír Fiurášek, and Zdeněk Hradil
Measurement does not always aid state discrimination *(3 pages)* 012306
Kieran Hunter
Unambiguous quantum-state filtering *(7 pages)* 012307
Masahiro Takeoka, Masashi Ban, and Masahide Sasaki
Robustness of quantum gates in the presence of noise *(13 pages)* 012308
Aram W. Harrow and Michael A. Nielsen
Entanglement in SU(2)-invariant quantum spin systems *(5 pages)* 012309
John Schliemann
Spin-based all-optical quantum computation with quantum dots: Understanding and suppressing decoherence *(21 pages)* 012310
T. Calarco, A. Datta, P. Fedichev, E. Pazy, and P. Zoller
Internal-state dephasing of trapped ions *(4 pages)* 012311
S. Brouard and J. Plata
Proposal for founding mistrustful quantum cryptography on coin tossing *(5 pages)* 012312
Adrian Kent
Entangled graphs. II. Classical correlations in multiqubit entangled systems *(6 pages)* 012313
Martin Plesch and Vladimír Bužek
Purity of Gaussian states: Measurement schemes and time evolution in noisy channels *(9 pages)* 012314
Matteo G. A. Paris, Fabrizio Illuminati, Alessio Serafini, and Silvio De Siena
Testing Bell's inequality and measuring the entanglement using superconducting nanocircuits *(6 pages)* 012315
Guang-Ping He, Shi-Liang Zhu, Z. D. Wang, and Hua-Zhong Li
Detected-jump-error-correcting quantum codes, quantum error designs, and quantum computation *(10 pages)* 012316
G. Alber, Th. Beth, Ch. Charnes, A. Delgado, M. Grassl, and M. Mussinger
Effect of noise on quantum teleportation *(6 pages)* 012317
Deepak Kumar and P. N. Pandey
Arbitrary two-qubit computation in 23 elementary gates *(7 pages)* 012318
Stephen S. Bullock and Igor L. Markov
Experiment towards continuous-variable entanglement swapping: Highly correlated four-partite quantum state *(8 pages)* 012319
Oliver Glöckl, Stefan Lorenz, Christoph Marquardt, Joel Heersink, Michael Brownnutt, Christine Silberhorn, Qing Pan, Peter van Loock, Natalia Korolkova, and Gerd Leuchs
Robust quantum gates and a bus architecture for quantum computing with rare-earth-ion-doped crystals *(5 pages)* 012320
Janus Wesenberg and Klaus Mølmer
Fast nonadiabatic two-qubit gates for the Kane quantum computer *(11 pages)* 012321
Charles D. Hill and Hsi-Sheng Goan

(Continued)

PHYSICAL REVIEW A THIRD SERIES, VOLUME 68, NUMBER 1 JULY 2003

Single-step distillation protocol with generalized beam splitters *(5 pages)* 012322
M. A. Martín-Delgado and M. Navascués
Transverse-mode beam splitter of a light beam and its application to quantum cryptography *(7 pages)* 012323
Hiroyuki Sasada and Megumi Okamoto
Quantum cryptography using single-particle entanglement *(4 pages)* 012324
Jae-Weon Lee, Eok Kyun Lee, Yong Wook Chung, Hai-Woong Lee, and Jaewan Kim

Atomic and molecular structure and dynamics

Moving magnetically induced anions: Possibility of a description of quantum states *(11 pages)* 012501
Victor G. Bezchastnov and Lorenz S. Cederbaum
Thirteen pump-probe resonances of the sodium $D1$ line *(8 pages)* 012502
Vincent Wong, Robert W. Boyd, C. R. Stroud, Jr., Ryan S. Bennink, and Alberto M. Marino
Relativistic multireference many-body perturbation-theory calculations on the multiple openshell states in siliconlike Ar and aluminumlike Fe ions *(13 pages)* 012503
Marius J. Vilkas and Yasuyuki Ishikawa
H_2^+ molecular ion in a strong magnetic field: Ground state *(19 pages)* 012504
A. V. Turbiner and J. C. López Vieyra
Correlation energy per particle from the coupling-constant integration *(4 pages)* 012505
F. Colonna, D. Maynau, and A. Savin
Scaling predictions for radii of weakly bound triatomic molecules *(7 pages)* 012506
M. T. Yamashita, R. S. Marques de Carvalho, Lauro Tomio, and T. Frederico
Allowed and spin-forbidden electric dipole transitions in Ca I *(6 pages)* 012507
Charlotte Froese Fischer and Georgio Tachiev
Static and dynamic dipole polarizability of the helium atom using wave functions involving logarithmic terms *(11 pages)* 012508
Mauro Masili and Anthony F. Starace
Modeling of high-resolution $K\alpha$ emission spectra from Fe XVIII through Fe XXIV *(12 pages)* 012509
V. Decaux, V. L. Jacobs, P. Beiersdorfer, D. A. Liedahl, and S. M. Kahn

Atomic and molecular collisions and interactions

Influence of chemical environment on resonant core excitation of C($1s$) in CO_2, OCS, and CS_2 by electron impact *(7 pages)* 012701
T. Kroin, S. E. Michelin, A. S. Falck, F. Arretche, M.-T. Lee, and Ione Iga
Outer-shell photodetachment of the metastable Be^- $1s^2 2s 2p^2\ ^4P^e$ state *(9 pages)* 012702
José Luis Sanz-Vicario and Eva Lindroth
Unified theoretical treatment of dissociative recombination of D_{3h} triatomic ions: Application to H_3^+ and D_3^+ *(23 pages)* 012703
Viatcheslav Kokoouline and Chris H. Greene
Ab initio study of charge transfer in B^{2+} low-energy collisions with atomic hydrogen *(9 pages)* 012704
A. R. Turner, D. L. Cooper, J. G. Wang, and P. C. Stancil
Charge transfer in slow collisions of H^+ with Na *(5 pages)* 012705
Anh-Thu Le, Chien-Nan Liu, and C. D. Lin
Polarization effects in the elastic scattering of low-energy electrons by XH_4 (X=C, Si, Ge, Sn, Pb) *(7 pages)* 012706
M. H. F. Bettega, M. T. do N. Varella, and M. A. P. Lima
Generalized Levinson theorem for singular potentials in two dimensions *(5 pages)* 012707
Denis Sheka, Boris Ivanov, and Franz G. Mertens
Optical-model potential for electron and positron elastic scattering by atoms *(17 pages)* 012708
Francesc Salvat

(Continued)

PHYSICAL REVIEW A **THIRD SERIES, VOLUME 68, NUMBER 1** **JULY 2003**

Semiclassical description of photoionization microscopy *(13 pages)* 012709
Ch. Bordas, F. Lépine, C. Nicole, and M. J. J. Vrakking
Nonstationary multistate Coulomb and multistate exponential models for nonadiabatic transitions *(11 pages)* 012710
V. N. Ostrovsky
Electron-correlation effects in the angular distribution of photoelectrons from Kr investigated by rotating the polarization axis of undulator radiation *(4 pages)* 012711
Kai Godehusen, Hans-Christoph Mertins, Tobias Richter, Peter Zimmermann, and Michael Martins
Electron-impact detachment from Cl^- *(8 pages)* 012712
K. Fritioff, J. Sandström, D. Hanstorp, A. Ehlerding, M. Larsson, G. F. Collins, D. J. Pegg, H. Danared, A. Källberg, and A. Le Padellec
Requirements of scattering data for model-independent analyses *(13 pages)* 012713
M. Eberspächer and K. Amos
$E1$-$E2$ interference in the vuv photoionization of He *(10 pages)* 012714
E. P. Kanter, B. Krässig, S. H. Southworth, R. Guillemin, O. Hemmers, D. W. Lindle, R. Wehlitz, M. Ya. Amusia, L. V. Chernysheva, and N. L. S. Martin
Appearance and disappearance of the second Born effects in the $(e,3e)$ reaction on He *(4 pages)* 012715
A. Dorn, A. Kheifets, C. D. Schröter, C. Höhr, G. Sakhelashvili, R. Moshammer, J. Lower, and J. Ullrich
Ab initio study of one- and two-electron transfer processes in collisions of Ne^{2+} with He at low to intermediate energies *(8 pages)* 012716
T. W. Imai, M. Kimura, J. P. Gu, G. Hirsch, R. J. Buenker, J. G. Wang, P. C. Stancil, and Lukas Pichl
State-dependent associative ionization in xenon *(5 pages)* 012717
R. H. Lipson, X. K. Hu, J. B. A. Mitchell, and C. Froese-Fischer
Dynamic response of target electrons on elastic scattering cross sections for heavy-ion impact on a high-Z atom *(5 pages)* 012718
Yasushi Hoshino and Yoshiaki Kido
Multichannel inverse scattering problem in one dimension: Thresholds and bound states *(8 pages)* 012719
M. Braun, S. A. Sofianos, and H. Leeb
Bethe stopping power theory for heavy-element targets and relativistic projectiles *(14 pages)* 012720
Scott M. Cohen
Electron capture into large-l Rydberg states of multiply charged ions escaping from solid surfaces *(10 pages)* 012721
N. N. Nedeljković, Lj. D. Nedeljković, and M. A. Mirković
Emission spectra of Rb^*He_n exciplexes in a cold ^4He gas *(12 pages)* 012722
K. Hirano, K. Enomoto, M. Kumakura, Y. Takahashi, and T. Yabuzaki
Enhancement of dielectronic recombination in crossed electric and magnetic fields *(10 pages)* 012723
Victor Klimenko, Lung Ko, and T. F. Gallagher

Photon, electron, atom, and molecule interactions with solids and surfaces

Effect of projected band gap on neutralization of Cs ions during grazing scattering from a Cu(111) surface *(7 pages)* 012901
A. G. Borisov, A. Mertens, S. Wethekam, and H. Winter
Charge-state dependence of kinetic electron emission induced by slow ions in metals *(7 pages)* 012902
J. I. Juaristi, R. Díez Muiño, A. Dubus, and M. Rösler
Atomic description and velocity effects for surface-plasmon neutralization rates in $He^+(1s)$/Al systems *(12 pages)* 012903
F. A. Gutierrez and H. Jouin

(Continued)

PHYSICAL REVIEW A THIRD SERIES, VOLUME 68, NUMBER 1 JULY 2003

Clusters (including fullerenes)

Nonmetal-metal transition in Zn_n ($n=2-20$) clusters *(6 pages)* 013201
Jinlan Wang, Guanghou Wang, and Jijun Zhao

Atomic and molecular processes in external fields

Branching and angular distribution of photofragments in two-frequency intense-field multiphoton dissociation of HD^+ *(10 pages)* 013401
Bibhas Dutta, Sanjay Sen, Samir Saha, and S. S. Bhattacharyya
Above-threshold ionization of Kr atoms in an infinite sequence of circularly polarized few-cycle pulses *(6 pages)* 013402
Jingtao Zhang and Zhizhan Xu
Theory of light-induced drift. V. Roles of accommodation of normal and tangential momenta in surface light-induced drift *(8 pages)* 013403
Frank O. Goodman
Laser-modified charge-transfer processes in proton collisions with lithium atoms *(5 pages)* 013404
M. S. Pindzola, T. Minami, and D. R. Schultz
Ionization of Stark states with half-cycle pulses: Interference effects in the continuum *(10 pages)* 013405
Corneliu Manescu, Jeffrey L. Krause, and Kenneth J. Schafer
Disalignment transitions in cold collisions of ^3P atoms with structureless targets in a magnetic field *(7 pages)* 013406
R. V. Krems and A. Dalgarno
Stark resonances stemming from continuum thresholds *(8 pages)* 013407
Gabriel Álvarez and Bala Sundaram
Dynamics of strong-field photoionization in two dimensions for short-range binding potentials *(6 pages)* 013408
Jacek Matulewski, Andrzej Raczyński, and Jarosław Zaremba
Correlation effects in two-photon single and double ionization of helium *(6 pages)* 013409
S. Laulan and H. Bachau
Rotational cooling of polar molecules by Stark-tuned cavity resonance *(7 pages)* 013410
C. H. Raymond Ooi
Sensitive detection of radiation trapping in cold-atom clouds *(6 pages)* 013411
Matthew Beeler, Ronald Stites, Soo Kim, Laura Feeney, and Samir Bali
Collapse of the stimulated Raman adiabatic passage due to geometrical factors and how to overcome it *(8 pages)* 013412
Ignacio R. Sola and Vladimir S. Malinovsky
Role of spin-orbit interaction in the production of spin-polarized photoelectrons using a dressing laser *(8 pages)* 013413
Takashi Nakajima and L. A. A. Nikolopoulos

Matter waves

Perturbation theory of spin-1 Bose-Einstein condensates *(24 pages)* 013601
Shingo Ohtsuka and Susumu Kurihara
Dynamics of a Bose-Einstein condensate near a Feshbach resonance *(17 pages)* 013602
R. A. Duine and H. T. C. Stoof
Feshbach resonance described by boson-fermion coupling *(5 pages)* 013603
T. Domański
Quantum-correlated double-well tunneling of two-component Bose-Einstein condensates *(6 pages)* 013604
H. T. Ng, C. K. Law, and P. T. Leung

(Continued)

PHYSICAL REVIEW A **THIRD SERIES, VOLUME 68, NUMBER 1** **JULY 2003**

Intrinsic localized modes in arrays of atomic-molecular Bose-Einstein condensates *(5 pages)* 013605
F. Kh. Abdullaev and V. V. Konotop
Atomic-matter-wave scanner *(4 pages)* 013606
Hilmar Oberst, Shigenori Kasashima, Victor I. Balykin, and Fujio Shimizu
Diffraction phases in atom interferometers *(4 pages)* 013607
M. Büchner, R. Delhuille, A. Miffre, C. Robilliard, J. Vigué, and C. Champenois
Analytical results for energy spectrum and eigenstates of a Bose-Einstein condensate in a Mott insulator state *(7 pages)* 013608
Ying Wu and Xiaoxue Yang
Proper treatment of the zero mode in quantum field theory for trapped Bose-Einstein condensation *(12 pages)* 013609
M. Okumura and Y. Yamanaka
Excitations of a Bose-Einstein condensate in a one-dimensional optical lattice *(11 pages)* 013610
J.-P. Martikainen and H. T. C. Stoof
Influence of nonadiabaticity and nonlinearity on the operation of cold-atom beam splitters *(13 pages)* 013611
James A. Stickney and Alex A. Zozulya
Normal modes and stability of phase-separated trapped Bose-Einstein condensates *(12 pages)* 013612
A. A. Svidzinsky and S. T. Chui
Dynamics of quantum phases in a spinor condensate *(16 pages)* 013613
S. Yi, Ö. E. Müstecaplıoğlu, and L. You

Quantum optics, physics of lasers, nonlinear optics

Spatial solitons and Anderson localization *(7 pages)* 013801
Kestutis Staliunas
Quantum theory of the far-off-resonance continuous-wave Raman laser: Heisenberg-Langevin approach *(12 pages)* 013802
P. A. Roos, S. K. Murphy, L. S. Meng, J. L. Carlsten, T. C. Ralph, A. G. White, and J. K. Brasseur
Nonlinear interaction of two photons with a one-dimensional atom: Spatiotemporal quantum coherence in the emitted field *(13 pages)* 013803
Kunihiro Kojima, Holger F. Hofmann, Shigeki Takeuchi, and Keiji Sasaki
Quantum interference with beamlike type-II spontaneous parametric down-conversion *(4 pages)* 013804
Yoon-Ho Kim
Model for bichromatic laser emission from a laser dye with nanoparticle scatterers *(9 pages)* 013805
P. Vaveliuk, A. M. de Brito Silva, and P. C. de Oliveira
Theory of the forces exerted by Laguerre-Gaussian light beams on dielectrics *(15 pages)* 013806
Rodney Loudon
Optimally squeezed spin states *(6 pages)* 013807
A. G. Rojo
Quantum-state transfer from light to macroscopic oscillators *(5 pages)* 013808
Jing Zhang, Kunchi Peng, and Samuel L. Braunstein
Completely positive Bloch-Boltzmann equations *(9 pages)* 013809
Robert Alicki and Stanisław Kryszewski
Observation of arbitrary group velocities of light from superluminal to subluminal on a single atomic transition line *(4 pages)* 013810
Kyoungdae Kim, Han Seb Moon, Chunghee Lee, Soo Kyoung Kim, and Jung Bog Kim
Frequency down-conversion through Bose condensation of light *(5 pages)* 013811
Patrick Navez
X-ray laser without inversion in a three-level ladder system *(14 pages)* 013812
D. Braunstein and R. Shuker

(Continued)

PHYSICAL REVIEW A **THIRD SERIES, VOLUME 68, NUMBER 1** **JULY 2003**

Polarization-mode hopping in single-mode vertical-cavity surface-emitting lasers: Theory and experiment *(8 pages)* 013813
Bob Nagler, Michael Peeters, Jan Albert, Guy Verschaffelt, Krassimir Panajotov, Hugo Thienpont, Irina Veretennicoff, Jan Danckaert, Sylvain Barbay, Giovanni Giacomelli, and Francesco Marin

High-order harmonic generation at a repetition rate of 100 kHz *(8 pages)* 013814
F. Lindner, W. Stremme, M. G. Schätzel, F. Grasbon, G. G. Paulus, H. Walther, R. Hartmann, and L. Strüder

Polarization squeezing of intense pulses with a fiber-optic Sagnac interferometer *(9 pages)* 013815
Joel Heersink, Tobias Gaber, Stefan Lorenz, Oliver Glöckl, Natalia Korolkova, and Gerd Leuchs

Compound pulse solitons in a fiber ring laser *(8 pages)* 013816
D. Y. Tang, B. Zhao, D. Y. Shen, C. Lu, W. S. Man, and H. Y. Tam

Continuous measurement with traveling-wave probes *(9 pages)* 013817
Andrew Silberfarb and Ivan H. Deutsch

Polariton condensation and lasing in optical microcavities: The decoherence-driven crossover *(15 pages)* 013818
M. H. Szymanska, P. B. Littlewood, and B. D. Simons

Dark-state evolution and self-phase modulation in a Λ medium *(7 pages)* 013819
V. Chaltykyan, G. Grigoryan, and G. Nikogosyan

Effective Hamiltonians for periodically driven systems *(18 pages)* 013820
Saar Rahav, Ido Gilary, and Shmuel Fishman

Traveling waves and counterpropagating bright droplets as a result of tailoring the transverse dispersion relation in a multistable optical system *(5 pages)* 013821
S. Rankin, E. Yao, and F. Papoff

Multipole interaction between atoms and their photonic environment *(16 pages)* 013822
Martijn Wubs, L. G. Suttorp, and A. Lagendijk

Sub-Poissonian statistics in order-to-chaos transition *(9 pages)* 013823
Gagik Yu. Kryuchkyan and Suren B. Manvelyan

BRIEF REPORTS

Fundamental concepts

Heisenberg's quantization of dissipative systems *(4 pages)* 014101
Merced Montesinos

Curvature-induced toroidal bound states *(4 pages)* 014102
Mario Encinosa and Lonnie Mott

Charge-dyon bound system in the spherical quantum well *(4 pages)* 014103
L. G. Mardoyan, L. S. Petrosyan, and H. A. Sarkisyan

Quantum shutter transient solutions and the delay time for the δ potential *(4 pages)* 014104
Alberto Hernández and Gastón García-Calderón

Quantum information

Entanglement capability of a self-inverse Hamiltonian evolution *(4 pages)* 014301
Xiaoguang Wang and Barry C. Sanders

Atomic and molecular structure and dynamics

Resonant spectroscopy of the antihydrogen atom *(3 pages)* 014501
Leonti Labzowsky and Dmitri Solovyev

(Continued)

PHYSICAL REVIEW A THIRD SERIES, VOLUME 68, NUMBER 1 JULY 2003

Atomic and molecular collisions and interactions

Role of the bound-state wave function in capture-loss rates: Slow proton in an electron gas *(4 pages)* 014701
M. Alducin, A. Arnau, and I. Nagy

Atomic and molecular processes in external fields

Control of interferences in an Autler-Townes doublet: Symmetry of control parameters *(4 pages)* 015401
M. Wollenhaupt, A. Assion, O. Bazhan, Ch. Horn, D. Liese, Ch. Sarpe-Tudoran, M. Winter, and T. Baumert

Matter waves

Dark and bright solitons in a quasi-one-dimensional Bose-Einstein condensate *(3 pages)* 015601
Shun-Jin Wang, Cheng-Long Jia, Dun Zhao, Hong-Gang Luo, and Jun-Hong An
Dynamic quantum depletion in phase-imprinted generation of dark solitons *(4 pages)* 015602
C. K. Law
Enhancement of four-wave mixing in Bose-Einstein condensate by introducing a mismatch *(4 pages)* 015603
E. Infeld and M. Trippenbach

Quantum optics, physics of lasers, nonlinear optics

Dynamics of femtosecond filamentation from saturation of self-focusing laser pulses *(4 pages)* 015801
A. Couairon
Subfemtosecond-pulse generation by rotational molecular modulation and pulse-spacing increase *(4 pages)* 015802
Jian Wu and Heping Zeng
Observation of an oscillatory correlation function of multimode two-photon pairs *(3 pages)* 015803
Hayato Goto, Yasuo Yanagihara, Haibo Wang, Tomoyuki Horikiri, and Takayoshi Kobayashi
Off-Raman resonance effects on hyperfine coherences *(4 pages)* 015804
Sihong Gu and J. A. Behr
Fast pulsing dynamics of a vertical-cavity surface-emitting laser operating in the low-frequency fluctuation regime *(4 pages)* 015805
M. Sciamanna, C. Masoller, F. Rogister, P. Mégret, N. B. Abraham, and M. Blondel
Effect of quantum interference on optical bistability in the three-level V-type atomic system *(4 pages)* 015806
Amitabh Joshi, Wenge Yang, and Min Xiao

COMMENTS

Comment on ‘‘Solution of the Schrödinger equation for the time-dependent linear potential’’ *(2 pages)* 016101
H. Bekkar, F. Benamira, and M. Maamache
Reply to ‘‘Comment on ‘Solution of the Schrödinger equation for the time-dependent linear potential’ ’’ *(1 page)* 016102
I. Guedes
Comment I on ‘‘Dense coding in entangled states’’ *(1 page)* 016301
Antoni Wójcik and Andrzej Grudka
Comment II on ‘‘Dense coding in entangled states’’ *(1 page)* 016302
O. Akhavan and A. T. Rezakhani

(Continued)

PHYSICAL REVIEW A **THIRD SERIES, VOLUME 68, NUMBER 1** **JULY 2003**

Comment on ''Analytic value of the atomic three-electron correlation integral with Slater wave functions'' *(1 page)* 016501
James S. Sims and Stanley A. Hagstrom
Comment on ''Three-dimensional kicked hydrogen atom'' *(3 pages)* 017401
A. Matos-Abiague and K. A. Kouzakov

ERRATA

Publisher's Note: Cluster-size distribution effects in laser-cluster interaction experiments [Phys. Rev. A **64**, 055201 (2001)] *(1 page)* . . . . . 019901(E)
K. J. Mendham, N. Hay, M. B. Mason, J. W. G. Tisch, and J. P. Marangos
Erratum: Metastable states in the antiprotonic helium atom decaying via Auger transitions [Phys. Rev. A **67**, 062501 (2003)] *(1 page)* . . . . . 019902(E)
Vladimir I. Korobov

Cumulative Author Index xiii