PHYSICAL REVIEW A

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

PERIODICALS
Postmaster send address changes to:
APS Subscription Services
Suite 1NO1
2 Huntington Quadrangle
Melville, NY 11747-4502

THIRD SERIES, VOLUME 74, NUMBER 1 *CONTENTS* **JULY 2006**

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

RAPID COMMUNICATIONS

Quantum information

Entanglement criteria based on local uncertainty relations are strictly stronger than the computable cross norm criterion *(4 pages)* . . . . . 010301(R)
Otfried Gühne, Mátyás Mechler, Géza Tóth, and Peter Adam

Quantum states representing perfectly secure bits are always distillable *(4 pages)* . . . . . 010302(R)
Paweł Horodecki and Remigiusz Augusiak

Single photon source using laser pulses and two-photon absorption *(4 pages)* . . . . . 010303(R)
B. C. Jacobs, T. B. Pittman, and J. D. Franson

Entanglement of two delocalized electrons *(4 pages)* . . . . . 010304(R)
A. Ramšak, I. Sega, and J. H. Jefferson

Bound entanglement maximally violating Bell inequalities: Quantum entanglement is not fully equivalent to cryptographic security *(4 pages)* . . . . . 010305(R)
Remigiusz Augusiak and Pawel Horodecki

Atomic and molecular processes in external fields

Two-color photoionization in xuv free-electron and visible laser fields *(4 pages)* . . . . . 011401(R)
M. Meyer, D. Cubaynes, P. O'Keeffe, H. Luna, P. Yeates, E. T. Kennedy, J. T. Costello, P. Orr, R. Taïeb, A. Maquet, S. Düsterer, P. Radcliffe, H. Redlin, A. Azima, E. Plönjes, and J. Feldhaus

Approach to ionization by intense laser pulses through a reduced set of coupled state equations *(4 pages)* . . . . 011402(R)
R. Guichard and R. Gayet

Matter waves

Finite-temperature momentum distribution of a trapped Fermi gas *(4 pages)* . . . . . 011601(R)
Qijin Chen, C. A. Regal, D. S. Jin, and K. Levin

Pairing of a trapped resonantly interacting fermion mixture with unequal spin populations *(4 pages)* . . . . . 011602(R)
Masudul Haque and H. T. C. Stoof

Copyright 2006 by The American Physical Society

(Continued)

1050-2947(200607)74:1;1-H

PHYSICAL REVIEW A THIRD SERIES, VOLUME 74, NUMBER 1 JULY 2006

Quantum optics, physics of lasers, nonlinear optics

Tailoring two-photon interference with phase dispersion *(4 pages)* . . . . . 011801(R)
Ryo Okamoto, Shigeki Takeuchi, and Keiji Sasaki

Light qubit storage and retrieval using macroscopic atomic ensembles *(4 pages)* . . . . . 011802(R)
J. Sherson, A. S. Sørensen, J. Fiurášek, K. Mølmer, and E. S. Polzik

Theory of single-photon control from a two-level system source *(4 pages)* . . . . . 011803(R)
Yong He and Eli Barkai

ARTICLES

Fundamental concepts

Perturbation hydrogen-atom spectrum in deformed space with minimal length *(5 pages)* 012101
M. M. Stetsko and V. M. Tkachuk

Reversible quantum measurement with arbitrary spins *(13 pages)* 012102
Hiroaki Terashima and Masahito Ueda

Repulsive Casimir effect between anisotropic dielectric and permeable plates *(7 pages)* 012103
Cheng-Gang Shao, Da-Lei Zheng, and Jun Luo

Nonequlibrium Green-function-based resonance system *(7 pages)* 012104
Sŏngho Gim

Quantum dissipation and decoherence via interaction with low-dimensional chaos: A Feynman-Vernon approach *(16 pages)* 012105
M. V. S. Bonança and M. A. M. de Aguiar

Quantum information

Information–disturbance tradeoff in continuous-variable Gaussian systems *(9 pages)* 012301
Marco G. Genoni and Matteo G. A. Paris

Probabilistic coding of quantum states *(5 pages)* 012302
Andrzej Grudka, Antoni Wójcik, and Mikołaj Czechlewski

Quantum algorithm for optical-template recognition with noise filtering *(10 pages)* 012303
Gernot Schaller and Ralf Schützhold

Quantum-feedback-induced enhancement of continuous-variable entanglement in a self-phase-locked type-II nondegenerate optical parameter oscillator *(7 pages)* 012304
Gao-xiang Li, Hua-tang Tan, and Sha-sha Ke

Properties of quantum nonsignaling boxes *(13 pages)* 012305
M. Piani, M. Horodecki, P. Horodecki, and R. Horodecki

General Einstein-Podolsky-Rosen-type entanglement of continuous variables for bosons *(5 pages)* 012306
Nian-Quan Jiang and Yi-Zhuang Zheng

Effects of collisional decoherence on multipartite entanglement: How entanglement might not be relatively common *(5 pages)* 012307
Guang-Hao Low, Zhiming Shi, and Ye Yeo

Theoretical analysis of a realistic atom-chip quantum gate *(9 pages)* 012308
E. Charron, M. A. Cirone, A. Negretti, J. Schmiedmayer, and T. Calarco

(Continued)

PHYSICAL REVIEW A THIRD SERIES, VOLUME 74, NUMBER 1 JULY 2006

Effect of spatial filtering on the Schmidt decomposition of entangled photons *(4 pages)* 012309
M. P. van Exter, A. Aiello, S. S. R. Oemrawsingh, G. Nienhuis, and J. P. Woerdman

Optimal dense coding with arbitrary pure entangled states *(5 pages)* 012310
Yuan Feng, Runyao Duan, and Zhengfeng Ji

Comb entanglement in quantum spin chains *(6 pages)* 012311
J. P. Keating, F. Mezzadri, and M. Novaes

Decoherence in two-dimensional quantum walks *(8 pages)* 012312
A. C. Oliveira, R. Portugal, and R. Donangelo

Geometrical aspects of entanglement *(13 pages)* 012313
Jon Magne Leinaas, Jan Myrheim, and Eirik Ovrum

Entangled spin clusters: Some special features *(8 pages)* 012314
Amit Tribedi and Indrani Bose

Quantum secret sharing based on modulated high-dimensional time-bin entanglement *(8 pages)* 012315
Hiroki Takesue and Kyo Inoue

Faithful state transfer through a quantum channel *(9 pages)* 012316
Simone Paganelli, Ferdinando de Pasquale, and Gian Luca Giorgi

Entanglement criteria via the uncertainty relations in su(2) and su(1,1) algebras: Detection of non-Gaussian entangled states *(7 pages)* 012317
Hyunchul Nha and Jaewan Kim

Shot noise in an electron waveguide $\sqrt{\text{NOT}}$ gate *(6 pages)* 012318
Linda E. Reichl and Michael G. Snyder

Three-way entanglement and three-qubit phase gate based on a coherent six-level atomic system *(7 pages)* 012319
Chao Hang, Yun Li, Lei Ma, and Guoxiang Huang

Entanglement between remote continuous-variable quantum systems: Effects of transmission loss *(7 pages)* 012320
Lars Bojer Madsen and Klaus Mølmer

Quantum communication in spin systems with long-range interactions *(7 pages)* 012321
M. Avellino, A. J. Fisher, and S. Bose

Feedback cooling of atomic motion in cavity QED *(21 pages)* 012322
Daniel A. Steck, Kurt Jacobs, Hideo Mabuchi, Salman Habib, and Tanmoy Bhattacharya

Atomic and molecular structure and dynamics

Computation of quantum phase transitions by reduced-density-matrix mechanics *(5 pages)* 012501
Gergely Gidofalvi and David A. Mazziotti

Isotope shifts and fine structures of ^{6,7}Li D lines and determination of the relative nuclear charge radius *(6 pages)* 012502
G. A. Noble, B. E. Schultz, H. Ming, and W. A. van Wijngaarden

Channel-coupling array theory for Coulomb three-body dynamics: Antiproton capture by hydrogen atoms *(9 pages)* 012503
Nobuhiro Yamanaka and Atsushi Ichimura

(Continued)

PHYSICAL REVIEW A THIRD SERIES, VOLUME 74, NUMBER 1 JULY 2006

Two-photon decay in gold atoms *(11 pages)* 012504
R. W. Dunford, E. P. Kanter, B. Krässig, S. H. Southworth, L. Young, P. H. Mokler, Th. Stöhlker, and S. Cheng

Frequency metrology on the Mg $3s^2\ ^1S \rightarrow 3s4p\ ^1P$ line for comparison with quasar data *(7 pages)* 012505
S. Hannemann, E. J. Salumbides, S. Witte, R. Th. Zinkstok, E.-J. van Duijn, K. S. E. Eikema, and W. Ubachs

Topology of magnetic-field-induced current-density field in diatropic monocyclic molecules *(8 pages)* 012506
Stefano Pelloni, Francesco Faglioni, Riccardo Zanasi, and Paolo Lazzeretti

Lifetime of the $1s2s\ ^3S_1$ metastable level in He-like S^{14+} measured with an electron beam ion trap *(4 pages)* 012507
J. R. Crespo López-Urrutia, P. Beiersdorfer, and K. Widmann

Implicit density-functional theory *(8 pages)* 012508
Bin Liu and Jerome K. Percus

Laser transition probabilities in Xe I *(5 pages)* 012509
Arati Dasgupta, J. P. Apruzese, Oleg Zatsarinny, Klaus Bartschat, and Charlotte Froese Fischer

Photoassociation spectroscopy of $^{87}Rb_2$ $(5s_{1/2}+5p_{1/2})0_u^+$ long-range molecular states: Coupling with the $(5s_{1/2}+5p_{3/2})0_u^+$ series analyzed using the Lu-Fano approach *(6 pages)* 012510
H. Jelassi, B. Viaris de Lesegno, and L. Pruvost

Selective population of the $[1s2s]\ ^1S_0$ and $[1s2s]\ ^3S_1$ states of He-like uranium *(7 pages)* 012511
J. Rzadkiewicz, Th. Stöhlker, D. Banaś, H. F. Beyer, F. Bosch, C. Brandau, C. Z. Dong, S. Fritzsche, A. Gojska, A. Gumberidze, S. Hagmann, D. C. Ionescu, C. Kozhuharov, T. Nandi, R. Reuschl, D. Sierpowski, U. Spillmann, A. Surzhykov, S. Tashenov, M. Trassinelli, and S. Trotsenko

Polarization-dependent photoionization cross sections and radiative lifetimes of atomic states in Ba I *(10 pages)* 012512
C.-H. Li and D. Budker

Atomic and molecular collisions and interactions

Elastic and inelastic processes in $H^+ + NH_2$ collisions between 0.5 and 1.5 keV *(7 pages)* 012701
Hiroya Suno, Sachchida N. Rai, Heinz-Peter Liebermann, Robert J. Buenker, Mineo Kimura, and Lukáš Pichl

Absolute determination of cross sections for resonant Raman scattering on silicon *(7 pages)* 012702
Matthias Müller, Burkhard Beckhoff, Gerhard Ulm, and Birgit Kanngießer

Photoionization and electron-impact ionization of Kr^{5+} *(9 pages)* 012703
M. Lu, M. F. Gharaibeh, G. Alna'washi, R. A. Phaneuf, A. L. D. Kilcoyne, E. Levenson, A. S. Schlachter, A. Müller, S. Schippers, J. Jacobi, S. W. J. Scully, and C. Cisneros

Exact solution of coupled Schrödinger equations in a stationary *n*-state exponential model *(10 pages)* 012704
Max Teubner

Characterization of weakly excited final states by shakedown spectroscopy of laser-excited potassium *(6 pages)* 012705
J. Schulz, S. Heinäsmäki, R. Sankari, T. Rander, A. Lindblad, H. Bergersen, G. Öhrwall, S. Svensson, E. Kukk, S. Aksela, and H. Aksela

Energy-resolved positron annihilation rates for molecules *(10 pages)* 012706
L. D. Barnes, J. A. Young, and C. M. Surko

(Continued)

PHYSICAL REVIEW A **THIRD SERIES, VOLUME 74, NUMBER 1** **JULY 2006**

Positron scattering from carbon dioxide *(5 pages)* 012707
Antonio Zecca, Chiara Perazzolli, Norberto Moser, Dirtha Sanyal, Mahuya Chakrabarti, and Michael J. Brunger

Absolute total cross-section measurements for electron collisions with tetrahydrofuran *(5 pages)* 012708
Paweł Możejko, Elżbieta Ptasińska-Denga, Alicja Domaracka, and Czesław Szmytkowski

Stability of fermionic Feshbach molecules in a Bose-Fermi mixture *(6 pages)* 012709
Alexander V. Avdeenkov, Daniele C. E. Bortolotti, and John L. Bohn

Off-shell Jost solution for a Coulomb-like potential *(8 pages)* 012710
U. Laha

Detailed study of the S $2p^{-1} \rightarrow X\ ^1A_1(2b_1^{-2})$ normal Auger spectra of H_2S *(8 pages)* 012711
M. Poygin, R. Püttner, M. Martins, V. Pennanen, M. Jurvansuu, Y. H. Jiang, H. Aksela, S. Aksela, and G. Kaindl

Levinson theorem for the Dirac equation in one dimension *(4 pages)* 012712
Zhong-Qi Ma, Shi-Hai Dong, and Lu-Ya Wang

Double- and triple-differential cross sections for the low-energy electron-impact ionization of hydrogen *(5 pages)* 012713
J. Colgan and M. S. Pindzola

Stepwise rise of quantum defects along the periodic table *(5 pages)* 012714
V. N. Ostrovsky

Excitation of the metastable states of the noble gases *(10 pages)* 012715
Rajesh Srivastava, A. D. Stauffer, and Lalita Sharma

Fragmentation of condensed-phase DNA components by hyperthermal He^+ impact *(7 pages)* 012716
Zongwu Deng, Marjorie Imhoff, Ilko Bald, Eugen Illenberger, and Michael A. Huels

K-shell ionization cross sections following 0.6–4-keV $e^- + H_2O$ collisions *(6 pages)* 012717
F. Frémont, A. Hajaji, J.-Y. Chesnel, P. Leprince, F. Porée, B. Gervais, and D. Hennecart

Resonance transfer of excitation in fast symmetric atomic collisions *(5 pages)* 012718
A. B. Voitkiv

Collisional-radiative calculations of He line emission in low-temperature plasmas *(8 pages)* 012719
C. P. Ballance, D. C. Griffin, S. D. Loch, R. F. Boivin, and M. S. Pindzola

Hyperspherical close-coupling calculations for electron-capture cross sections in low-energy $Ne^{10+} + H(1s)$ collisions *(5 pages)* 012720
Patricia Barragán, Anh-Thu Le, and C. D. Lin

Topology of optimally controlled quantum mechanical transition probability landscapes *(9 pages)* 012721
H. Rabitz, T.-S. Ho, M. Hsieh, R. Kosut, and M. Demiralp

Semiclassical treatment of excitation and electron loss in $A^{q+} + H(1s)$ collisions using spherical Bessel functions *(17 pages)* 012722
L. F. Errea, L. Méndez, B. Pons, A. Riera, I. Sevila, and J. Suárez

Collision-induced spectroscopy with long-range intermolecular interactions: A diagrammatic representation and the invariant form of the induced properties *(8 pages)* 012723
A. P. Kouzov, M. Chrysos, F. Rachet, and N. I. Egorova

(Continued)

PHYSICAL REVIEW A THIRD SERIES, VOLUME 74, NUMBER 1 JULY 2006

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

Neutralization of H^- near vicinal metal surfaces *(11 pages)* 012901
Boyan Obreshkov and Uwe Thumm

Influence of surface channeling in the stopping of protons colliding with LiF surfaces *(7 pages)* 012902
Andrea J. García and J. E. Miraglia

Clusters (including fullerenes)

X-ray generation in laser-heated cluster beams *(17 pages)* 013201
M. B. Smirnov and W. Becker

Atomic and molecular processes in external fields

Mechanical effect of retroreflected frequency-chirped laser pulses on two-level atoms *(8 pages)* 013401
G. Demeter, G. P. Djotyan, Zs. Sörlei, and J. S. Bakos

Generalization of the Rabi population inversion dynamics in the sub-one-cycle pulse limit *(8 pages)* 013402
N. Došlić

Coherent transport of cold atoms in angle-tuned optical lattices *(8 pages)* 013403
Roberto Franzosi, Matteo Cristiani, Carlo Sias, and Ennio Arimondo

Analytical theory for optimal control of multiphoton transitions *(6 pages)* 013404
Ilya Grigorenko and Martin E. Garcia

Theory of high-order harmonic generation and attosecond pulse emission by a low-frequency elliptically polarized laser field *(14 pages)* 013405
V. V. Strelkov

Nonlinear Schrödinger equation with power-law confining potential *(6 pages)* 013406
Sheila M. Holz, Victo S. Filho, Lauro Tomio, and A. Gammal

Coherent population accumulations of multiphoton transitions induced by an ultrashort pulse train in polar molecules *(6 pages)* 013407
Weifeng Yang, Shangqing Gong, Ruxin Li, and Zhizhan Xu

Efficient intensity-gradient cooling of atoms in a weak standing-wave hollow-beam trap *(13 pages)* 013408
Zhengling Wang and Jianping Yin

Dependence of fluorescence-level statistics on bin-time size in a few-atom magneto-optical trap *(9 pages)* 013409
Sungsam Kang, Seokchan Yoon, Youngwoon Choi, Jai-Hyung Lee, and Kyungwon An

Recombination in strong laser fields: Manifestation of a slow drift *(5 pages)* 013410
Jacek Matulewski, Andrzej Raczyński, Łukasz Ręb arz, and Jarosław Zaremba

Matter waves

Bragg spectroscopy of trapped one-dimensional strongly interacting bosons in optical lattices: Probing the cake structure *(7 pages)* 013601
Guido Pupillo, Ana Maria Rey, and Ghassan George Batrouni

Ultracold polarized Fermi gas at intermediate temperatures *(6 pages)* 013602
Jani-Petri Martikainen

(Continued)

PHYSICAL REVIEW A **THIRD SERIES, VOLUME 74, NUMBER 1** **JULY 2006**

Magnetic-modulation spectroscopy of an atomic Fermi gas in the BCS-BEC crossover: Dissociation spectra in the Bose-Einstein condensate regime *(5 pages)* 013603
J. Plata

Transmission of matter-wave solitons through nonlinear traps and barriers *(6 pages)* 013604
Josselin Garnier and Fatkhulla Kh. Abdullaev

Decay by tunneling of bosonic and fermionic Tonks-Girardeau gases *(6 pages)* 013605
A. del Campo, F. Delgado, G. García-Calderón, J. G. Muga, and M. G. Raizen

Vortex in the yrast band of condensates of pseudo-spin-1/2 bosonic atoms *(6 pages)* 013606
Z. B. Li and C. G. Bao

Atomic matter of nonzero-momentum Bose-Einstein condensation and orbital current order *(9 pages)* 013607
W. Vincent Liu and Congjun Wu

Nonzero orbital angular momentum superfluidity in ultracold Fermi gases *(22 pages)* 013608
M. Iskin and C. A. R. Sá de Melo

Analytical expressions of collective excitations for trapped superfluid Fermi gases in a BCS-BEC crossover *(8 pages)* 013609
Jun Yin, Yong-li Ma, and Guoxiang Huang

Phase diagram of a polarized Fermi gas across a Feshbach resonance in a potential trap *(9 pages)* 013610
W. Yi and L.-M. Duan

Quantum theory of an atom laser originating from a Bose-Einstein condensate or a Fermi gas in the presence of gravity *(13 pages)* 013611
Tobias Kramer and Mirta Rodríguez

Mean-field effects may mimic number squeezing in Bose-Einstein condensates in optical lattices *(13 pages)* 013612
S. B. McKagan, D. L. Feder, and W. P. Reinhardt

Force on a moving point impurity due to quantum fluctuations in a Bose-Einstein condensate *(4 pages)* 013613
D. C. Roberts

Phase diagram of a cold polarized Fermi gas *(6 pages)* 013614
D. T. Son and M. A. Stephanov

Effective field theory of boson-fermion mixtures and bound fermion states on a vortex of boson superfluid *(11 pages)* 013615
Yusuke Nishida and Dam Thanh Son

Three-dimensional strong localization of matter waves by scattering from atoms in a lattice with a confinement-induced resonance *(20 pages)* 013616
Pietro Massignan and Yvan Castin

Modulation instability and solitary-wave formation in two-component Bose-Einstein condensates *(14 pages)* 013617
Kenichi Kasamatsu and Makoto Tsubota

Natural orbits of atomic Cooper pairs in a nonuniform Fermi gas *(6 pages)* 013618
Y. H. Pong and C. K. Law

Analysis of an atom laser based on the spatial control of the scattering length *(8 pages)* 013619
Alicia V. Carpentier, Humberto Michinel, María I. Rodas-Verde, and Víctor M. Pérez-García

(Continued)

PHYSICAL REVIEW A THIRD SERIES, VOLUME 74, NUMBER 1 JULY 2006

Tonks-Girardeau gas in an optical lattice: Effects of a local potential *(6 pages)* 013620
Hao Fu and A. G. Rojo

Expansion dynamics of a dipolar Bose-Einstein condensate *(10 pages)* 013621
S. Giovanazzi, P. Pedri, L. Santos, A. Griesmaier, M. Fattori, T. Koch, J. Stuhler, and T. Pfau

Ground-state cooling of atoms in optical lattices *(11 pages)* 013622
M. Popp, J.-J. Garcia-Ripoll, K. G. Vollbrecht, and J. I. Cirac

Bogoliubov modes of a dipolar condensate in a cylindrical trap *(13 pages)* 013623
Shai Ronen, Daniele C. E. Bortolotti, and John L. Bohn

Quantum optics, physics of lasers, nonlinear optics

Quantum diffraction and interference of spatially correlated photon pairs and its Fourier-optical analysis *(10 pages)* 013801
Ryosuke Shimizu, Keiichi Edamatsu, and Tadashi Itoh

Optimal generation of pulsed entangled photon pairs *(8 pages)* 013802
Juan F. Hodelin, George Khoury, and Dirk Bouwmeester

Field autocorrelations in electromagnetically induced transparency: Effects of a squeezed probe field *(7 pages)* 013803
P. Barberis-Blostein

Directional interacting whispering-gallery modes in coupled dielectric microdisks *(7 pages)* 013804
Jung-Wan Ryu, Soo-Young Lee, Chil-Min Kim, and Young-Jai Park

Photon distribution function for long-distance propagation of partially coherent beams through the turbulent atmosphere *(11 pages)* 013805
G. P. Berman and A. A. Chumak

Dynamical Casimir effect in a one-dimensional uniformly contracting cavity *(10 pages)* 013806
A. M. Fedotov, Yu. E. Lozovik, N. B. Narozhny, and A. N. Petrosyan

Spectral narrowing via quantum coherence *(4 pages)* 013807
Eugeniy E. Mikhailov, Vladimir A. Sautenkov, Yuri V. Rostovtsev, Aihua Zhang, M. Suhail Zubairy, Marlan O. Scully, and George R. Welch

Generation of a highly-phase-sensitive polarization-squeezed *N*-photon state by collinear parametric down-conversion and coherent photon subtraction *(6 pages)* 013808
Holger F. Hofmann

Analysis of the temporal and spectral output properties of a mode-locked and *Q*-switched laser oscillator with a nonlinear mirror based on stimulated Brillouin scattering *(10 pages)* 013809
P. Kappe, R. Menzel, and M. Ostermeyer

Temporal and spectral studies of high-order harmonics generated by polarization-modulated infrared fields *(8 pages)* 013810
I. J. Sola, A. Zaïr, R. López-Martens, P. Johnsson, K. Varjú, E. Cormier, J. Mauritsson, A. L'Huillier, V. Strelkov, E. Mével, and E. Constant

Coherent population trapping resonances in Cs atoms excited by elliptically polarized light *(8 pages)* 013811
K. Nasyrov, S. Cartaleva, N. Petrov, V. Biancalana, Y. Dancheva, E. Mariotti, and L. Moi

Transients of the electromagnetically-induced-transparency-enhanced refractive Kerr nonlinearity: Theory *(9 pages)* 013812
M. V. Pack, R. M. Camacho, and J. C. Howell

(Continued)

PHYSICAL REVIEW A THIRD SERIES, VOLUME 74, NUMBER 1 JULY 2006

Experimental evidence for an optical spring *(4 pages)* 013813
A. Di Virgilio, L. Barsotti, S. Braccini, C. Bradaschia, G. Cella, C. Corda, V. Dattilo, I. Ferrante, F. Fidecaro, I. Fiori, F. Frasconi, A. Gennai, A. Giazotto, P. La Penna, G. Losurdo, E. Majorana, M. Mantovani, A. Pasqualetti, D. Passuello, F. Piergiovanni, A. Porzio, P. Puppo, P. Rapagnani, F. Ricci, S. Solimeno, G. Vajente, and F. Vetrano

Optical response of a misaligned and suspended Fabry-Perot cavity *(14 pages)* 013814
G. Cella, A. Di Virgilio, P. La Penna, V. D'Auria, A. Porzio, I. Ricciardi, and S. Solimeno

Entangled, guided photon generation in $(1+1)$-dimensional photonic crystals *(6 pages)* 013815
L. Sciscione, M. Centini, C. Sibilia, M. Bertolotti, and M. Scalora

Excess coincidences of reflected and refracted x rays from a synchrotron-radiation beamline *(8 pages)* 013816
Erkki Ikonen, Makina Yabashi, and Tetsuya Ishikawa

Stochastic resonance in atomic optical bistability *(5 pages)* 013817
Amitabh Joshi and Min Xiao

Generation of attosecond unidirectional half-cycle pulses: Inclusion of propagation effects *(8 pages)* 013818
E. Persson, K. Schiessl, A. Scrinzi, and J. Burgdörfer

BRIEF REPORTS

Fundamental concepts

Perturbative quantum-state estimation *(4 pages)* 014101
P. Banáš, J. Řeháček, and Z. Hradil

Coherent and incoherent tunneling in asymmetric double-well potentials *(4 pages)* 014102
A. Ranfagni, I. Cacciari, M. A. Vitali, G. Viliani, P. Moretti, and R. Ruggeri

Atomic and molecular structure and dynamics

Compact $1\,^1S$ helium wave functions *(2 pages)* 014501
Carl W. David

Atomic and molecular collisions and interactions

Coulomb-Sturmian matrix elements of the Coulomb Green's operator *(4 pages)* 014701
F. Demir, Z. T. Hlousek, and Z. Papp

Spin-dipole-induced lifetime of the least-bound $^5\Sigma_g^+$ state of $\mathrm{He}(2\,^3S_1)+\mathrm{He}(2\,^3S_1)$ *(4 pages)* 014702
Timothy J. Beams, Gillian Peach, and Ian B. Whittingham

Role of the cusp conditions in electron-helium double ionization *(4 pages)* 014703
O. Chuluunbaatar, I. V. Puzynin, P. S. Vinitsky, Yu. V. Popov, K. A. Kouzakov, and C. Dal Cappello

Long-range interactions for $\mathrm{He}(nS)$–$\mathrm{He}(n'S)$ and $\mathrm{He}(nS)$–$\mathrm{He}(n'P)$ *(4 pages)* 014704
J.-Y. Zhang, Z.-C. Yan, D. Vrinceanu, J. F. Babb, and H. R. Sadeghpour

Quantum optics, physics of lasers, nonlinear optics

Conditional preparation of two-mode correlated photon number states of light *(4 pages)* 015801
Xubo Zou, Yuli Dong, and Guangcan Guo

(Continued)

PHYSICAL REVIEW A THIRD SERIES, VOLUME 74, NUMBER 1 JULY 2006

Propagation of an arbitrary elliptically polarized few-cycle ultrashort laser pulse in resonant two-level quantum systems *(4 pages)* 015802
Xiaohong Song, Shangqing Gong, Ruxin Li, and Zhizhan Xu

Use of a laser as a femtosecond ruler to precisely measure an x-ray pulse *(4 pages)* 015803
Yucheng Ge

COMMENTS

Comment II on "Quantum secret sharing based on reusable Greenberger-Horne-Zeilinger states as secure carriers" *(3 pages)* 016301
Jian-Zhong Du, Su-Juan Qin, Qiao-Yan Wen, and Fu-Chen Zhu

Reply to "Comment II on 'Quantum secret sharing based on reusable Greenberger-Horne-Zeilinger states as secure carriers' " *(3 pages)* 016302
V. Karimipour

Comment on "Towards a differential equation for the nonrelativistic ground-state electron density of the He-like sequence of atomic ions" *(2 pages)* 016501
Pablo Serra

Comment on "Effective excitation method of a three-level medium in a selective photoionization" *(2 pages)* 016701
G. P. Gupta and B. M. Suri

Reply to "Comment on 'Effective excitation method of a three-level medium in a selective photoionization'" *(1 page)* 016702
Yong-Joo Rhee

ERRATA

Publisher's Note: Dispersive forces on bodies and atoms: A unified approach [Phys. Rev. A **73**, 063822 (2006)] *(1 page)* . . . . . 019901(E)
Christian Raabe and Dirk-Gunnar Welsch

Publisher's Note: Spatial labeling in a two-photon interferometer [Phys Rev. A **73**, 063827 (2006)] *(1 page)* . . . . . 019902(E)
P. S. K. Lee and M. P. van Exter

Publisher's Note: Asymptotic adaptive bipartite entanglement-distillation protocol [Phys. Rev. A**73**, 062337 (2006)] *(1 page)* . . . . . 019903(E)
Erik Hostens, Jeroen Dehaene, and Bart De Moor

Erratum: Channel competition between metastable and dissociated states of doubly ionized NO in strong laser fields [Phys. Rev. A **71**, 021404 (2005)] *(1 page)* . . . . . 019904(E)
Chunlei Guo and Kevin Wright