

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 1N01
2 Huntington Quadrangle
Melville, NY 11747-4502

THIRD SERIES, VOLUME 75, NUMBER 2
PARTS A AND B

CONTENTS

FEBRUARY 2007

*The Table of Contents is a total listing of Parts A and B.
Part A consists of pages 020301(R)-022720, and Part B pages 022901-029908(E).*

PART A

RAPID COMMUNICATIONS

Quantum information

Six-qubit permutation-based decoherence-free orthogonal basis (4 pages) 020301(R)
Adán Cabello

Phase shifting of an interferometer using nonlocal quantum-state correlations (4 pages) 020302(R)
E. J. Galvez, M. Malik, and B. C. Melius

Atomic and molecular structure and dynamics

Magic-wave-induced $^1S_0$ - $^3P_0$ transition in even isotopes of alkaline-earth-metal-like atoms (4 pages) 020501(R)
Vitaly D. Ovsiannikov, Vitaly G. Pal'chikov, Alexey V. Taichenachev, Valeriy I. Yudin, Hidetoshi Katori,
and Masao Takamoto

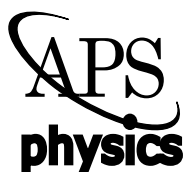
Electron-ion-ion triple-coincidence spectroscopic study of site-specific fragmentation caused by Si:2p
core-level photoionization of $F_3SiCH_2CH_2Si(CH_3)_3$ vapor (4 pages) 020502(R)
S. Nagaoka, G. Prümper, H. Fukuzawa, M. Hino, M. Takemoto, Y. Tamenori, J. Harries, I. H. Suzuki,
O. Takahashi, K. Okada, K. Tabayashi, X.-J. Liu, T. Lischke, and K. Ueda

Atomic and molecular collisions and interactions

Quantum scattering of distinguishable bosons using an ultracold-atom collider (4 pages) 020701(R)
Angela S. Mellish, Niels Kjærgaard, Paul S. Julienne, and Andrew C. Wilson

Collisional relaxation of Feshbach molecules and three-body recombination in ^{87}Rb Bose-Einstein condensates
(4 pages) 020702(R)
G. Smirne, R. M. Godun, D. Cassettari, V. Boyer, C. J. Foot, T. Volz, N. Syassen, S. Dürr, G. Rempe,
M. D. Lee, K. Góral, and T. Köhler

Gas-solid difference in charge-changing cross sections for bare and H-like nickel ions at 200 MeV/u
(4 pages) 020703(R)
H. Ogawa, H. Geissel, A. Fettouhi, S. Fritzsche, M. Portillo, C. Scheidenberger, V. P. Shevelko,
A. Surzhykov, H. Weick, F. Becker, D. Boutin, B. Kindler, R. K. Knöbel, J. Kurcewicz, W. Kurcewicz,
Yu. A. Litvinov, B. Lommel, G. Münzenberg, W. R. Plaß, N. Sakamoto, J. Stadlmann, H. Tsuchida,
M. Winkler, and N. Yao



Copyright 2007 by The American Physical Society

(Continued)



1050-2947(200702)75:2:A;1-K

Atomic and molecular processes in external fields

- Demonstration of bicolor slow-light channelization in rubidium vapor (*4 pages*) 021401(R)
 Mark Bashkansky, Zachary Dutton, Fredrik K. Fatemi, John Reintjes, and Michael Steiner

Matter waves

- Exact numerical simulations of a one-dimensional trapped Bose gas (*4 pages*) 021601(R)
 Bernd Schmidt and Michael Fleischhauer
- Single-plane-wave Larkin-Ovchinnikov-Fulde-Ferrell state in BCS-BEC crossover (*4 pages*) 021602(R)
 Yan He, Chih-Chun Chien, Qijin Chen, and K. Levin

Quantum optics, physics of lasers, nonlinear optics, classical optics

- Single-attosecond pulse generation using a seed harmonic pulse train (*4 pages*) 021801(R)
 Kenichi L. Ishikawa, Eiji J. Takahashi, and Katsumi Midorikawa
- Slow light of subnanosecond pulses via stimulated Brillouin scattering in nonuniform fibers (*4 pages*) 021802(R)
 V. P. Kalosha, Liang Chen, and Xiaoyi Bao
- Lensless Fourier-transform ghost imaging with classical incoherent light (*4 pages*) 021803(R)
 Minghui Zhang, Qing Wei, Xia Shen, Yongfeng Liu, Honglin Liu, Jing Cheng, and Shensheng Han

ARTICLES

Fundamental concepts

- Lorentz transformations that entangle spins and entangle momenta (*5 pages*) 022101
 Thomas F. Jordan, Anil Shaji, and E. C. G. Sudarshan
- Quantum-mechanical realization of a Popescu-Rohrlich box (*5 pages*) 022102
 Samuel Marcovitch, Benni Reznik, and Lev Vaidman
- Non-Markovian generalization of the Lindblad theory of open quantum systems (*9 pages*) 022103
 Heinz-Peter Breuer
- Schrödinger-equation formalism for a dissipative quantum system (*7 pages*) 022104
 E. Anisimovas and A. Matulis
- Analytical results for state-to-state transition probabilities in the multistate Landau-Zener model by nonstationary perturbation theory (*10 pages*) 022105
 M. V. Volkov and V. N. Ostrovsky
- Time delay for one-dimensional quantum systems with steplike potentials (*20 pages*) 022106
 W. O. Amrein and Ph. Jacquet
- Entanglement properties in the inhomogeneous Tavis-Cummings model (*5 pages*) 022107
 C. E. López, F. Lastra, G. Romero, and J. C. Retamal
- Observing quantum nonlocality in the entanglement between modes of massive particles (*8 pages*) 022108
 S. Ashhab, Koji Maruyama, and Franco Nori

Quantum information

- Fault-tolerant thresholds for encoded ancillae with homogeneous errors (*13 pages*) 022301
 Bryan Eastin

CONTENTS - *Continued*

PHYSICAL REVIEW A

THIRD SERIES, VOLUME 75, NUMBER 2

FEBRUARY 2007

Experimental quantum “Guess my Number” protocol using multiphoton entanglement (<i>4 pages</i>)	022302
Jun Zhang, Xiao-Hui Bao, Teng-Yun Chen, Tao Yang, Adán Cabello, and Jian-Wei Pan	
Quantum simulations under translational symmetry (<i>9 pages</i>)	022303
Christina V. Kraus, Michael M. Wolf, and J. Ignacio Cirac	
Entanglement, avoided crossings, and quantum chaos in an Ising model with a tilted magnetic field (<i>7 pages</i>)	022304
J. Karthik, Auditya Sharma, and Arul Lakshminarayan	
Symmetry-protected creation of superposition states and entanglement using circulant Hamiltonians (<i>4 pages</i>)	022305
R. G. Unanyan, B. W. Shore, M. Fleischhauer, and N. V. Vitanov	
Continuous-variable quantum cloning of coherent states with phase-conjugate input modes using linear optics (<i>5 pages</i>)	022306
Haixia Chen and Jing Zhang	
Spectral effects in quantum teleportation (<i>8 pages</i>)	022307
Travis S. Humble and Warren P. Grice	
Groverian entanglement measure of pure quantum states with arbitrary partitions (<i>5 pages</i>)	022308
Yishai Shimon and Ofer Biham	
Quantum broadcasting problem in classical low-power signal processing (<i>11 pages</i>)	022309
Dominik Janzing and Bastian Steudel	
Quantum state transfer with untunable couplings (<i>8 pages</i>)	022310
P. K. Gagnebin, S. R. Skinner, E. C. Behrman, and J. E. Steck	
Eavesdropping of quantum communication from a noninertial frame (<i>5 pages</i>)	022311
K. Brádler	
Tavis-Cummings model and collective multiqubit entanglement in trapped ions (<i>6 pages</i>)	022312
A. Retzker, E. Solano, and B. Reznik	
Efficient Toffoli gates using qudits (<i>5 pages</i>)	022313
T. C. Ralph, K. J. Resch, and A. Gilchrist	
Efficient error characterization in quantum information processing (<i>10 pages</i>)	022314
Benjamin Lévi, Cecilia C. López, Joseph Emerson, and D. G. Cory	
Nonseparability tests by noncommutativity of excitations (<i>8 pages</i>)	022315
T. Vértesi and R. Englman	
Effects of ground-state hyperfine shifts in quantum computing with rare-earth-metal ions in solids (<i>7 pages</i>)	022316
Karl Tordrup and Klaus Mølmer	
Improving fidelity in atomic state teleportation via cavity decay (<i>8 pages</i>)	022317
Grzegorz Chimczak and Ryszard Tanaś	
Inductive entanglement classification of four qubits under stochastic local operations and classical communication (<i>9 pages</i>)	022318
L. Lamata, J. León, D. Salgado, and E. Solano	
Entropic uncertainty relations and locking: Tight bounds for mutually unbiased bases (<i>8 pages</i>)	022319
Manuel A. Ballester and Stephanie Wehner	

(Continued)

Decoherence-free quantum-information processing using dipole-coupled qubits (7 pages)	022320
Peter G. Brooke	
Transfer of d -level quantum states through spin chains by random swapping (7 pages)	022321
A. Bayat and V. Karimipour	
Free-Dirac-particle evolution as a quantum random walk (7 pages)	022322
A. J. Bracken, D. Ellinas, and I. Smyrnakis	
Quantum communication and computing with atomic ensembles using a light-shift-imbalance-induced blockade (9 pages)	022323
M. S. Shahriar, G. S. Pati, and K. Salit	
Asymptotically noise decoupling for Markovian open quantum systems (11 pages)	022324
Jing Zhang, Re-Bing Wu, Chun-Wen Li, Tzyh-Jong Tarn, and Jian-Wu Wu	
Remote preparation of qutrit states with biphotons (4 pages)	022325
Hideharu Mikami and Takayoshi Kobayashi	
Fast rate estimation of a unitary operation in $SU(d)$ (8 pages)	022326
Jonas Kahn	
Control of multiatom entanglement in a cavity (9 pages)	022327
Aikaterini Mandilara, Vladimir M. Akulin, Michal Kolar, and Gershon Kurizki	
Relation between phase-space coverage and entanglement for spin-1/2 systems (6 pages)	022328
Stefan Schenk and Gert-Ludwig Ingold	
Continuously decoupling single-qubit operations from a perturbing thermal bath of scalar bosons (4 pages)	022329
F. F. Fanchini, J. E. M. Hornos, and R. d. J. Napolitano	
Multiusers quantum communication networks (5 pages)	022330
Antoni Wójcik, Tomasz Łuczak, Paweł Kurzyński, Andrzej Grudka, Tomasz Gdala, and Małgorzata Bednarska	
Capacities of noiseless quantum channels for massive indistinguishable particles: Bosons versus fermions (14 pages)	022331
Aditi Sen(De), Ujjwal Sen, Bartosz Gromek, Dagmar Bruß, and Maciej Lewenstein	
Concurrence of superpositions (5 pages)	022332
Chang-shui Yu, X. X. Yi, and He-shan Song	
Atomic and molecular structure and dynamics	
Krypton atom and testing the limits of extreme-ultraviolet tunable-laser spectroscopy (13 pages)	022501
T. Trickl, A. H. Kung, and Y. T. Lee	
Level-crossing spectroscopy of the 7, 9, and $10D_{5/2}$ states of ^{133}Cs and validation of relativistic many-body calculations of the polarizabilities and hyperfine constants (12 pages)	022502
M. Auzinsh, K. Bluss, R. Ferber, F. Gahbauer, A. Jarmola, M. S. Safronova, U. I. Safronova, and M. Tamaniš	
Optical spectroscopy of high- L Rydberg states of argon (5 pages)	022503
L. E. Wright, E. L. Snow, S. R. Lundeen, and W. G. Sturru	
Kinetically balanced Gaussian basis-set approach to relativistic Compton profiles of atoms (12 pages)	022504
Prerit Jaiswal and Alok Shukla	

Anti-Hermitian part of the contracted Schrödinger equation for the direct calculation of two-electron reduced density matrices (12 pages)	022505
David A. Mazziotti	
Calculation of atomic integrals using commutation relations (18 pages)	022506
J. Zamastil, F. Vinette, and M. Šimánek	
Determination of the static polarizability of the $8s^2S_{1/2}$ state of atomic cesium (6 pages)	022507
Mevan Gunawardena, D. S. Elliott, M. S. Safronova, and U. Safronova	
Numerical calculation of supercritical Dirac resonance parameters by analytic continuation methods (6 pages)	022508
Edward Ackad and Marko Horbatsch	
Theory of the nuclear excitation by electron transition process near the K edge (6 pages)	022509
E. V. Tkalya	
<i>Ab initio</i> calculation of the electron-nucleus scalar-pseudoscalar interaction constant W_s in heavy polar molecules (3 pages)	022510
Malaya K. Nayak, Rajat K. Chaudhuri, and B. P. Das	
Field-induced conformational changes in bimetallic oligoaniline junctions (13 pages)	022511
Juan C. Sotelo, Liuming Yan, Michael Wang, and Jorge M. Seminario	
High-resolution study of the x-ray resonant Raman scattering process around the $1s$ absorption edge for aluminium, silicon, and their oxides (11 pages)	022512
J. Szlachetko, J.-Cl. Dousse, M. Berset, K. Fennane, M. Szlachetko, J. Hoszowska, R. Barrett, M. Pajek, and A. Kubala-Kukus	
Critique of the foundations of time-dependent density-functional theory (16 pages)	022513
J. Schirmer and A. Dreuw	
Necessary and sufficient conditions for the N -representability of density functionals (12 pages)	022514
Paul W. Ayers and Shubin Liu	
Stimulated rotational Raman generation controlled by strongly driven vibrational coherence in molecular deuterium (10 pages)	022515
A. M. Burzo, A. V. Chugreev, and A. V. Sokolov	
Atomic and molecular collisions and interactions	
Spin-polarized photoelectrons from half-filled-shell atoms (4 pages)	022701
V. K. Dolmatov and S. T. Manson	
Ultracold atom-molecule collisions and bound states in magnetic fields: Tuning zero-energy Feshbach resonances in He-NH ($^3\Sigma^-$) (14 pages)	022702
Maykel Leonardo González-Martínez and Jeremy M. Hutson	
Dissociative electron attachment to HBr: A temperature effect (5 pages)	022703
J. Fedor, M. Cingel, J. D. Skalný, P. Scheier, T. D. Märk, M. Čížek, P. Kolorenč, and J. Horáček	
Closed-form expressions for state-to-state charge-transfer differential cross sections in a modified Faddeev three-body approach (12 pages)	022704
E. Ghanbari Adivi, M. J. Brunger, M. A. Bolorizadeh, and L. Campbell	
Electron-impact electronic excitation of molecular nitrogen using the Schwinger multichannel variational method (11 pages)	022705
Romarly F. da Costa and Marco A. P. Lima	

Charge transfer and electronic excitation in collisions of protons with water molecules below 10 keV (7 pages)	022706
Shogo Mada, Ken-nosuke Hida, Mineo Kimura, Lukáš Pichl, Heinz-Peter Liebermann, Yan Li, and Robert J. Buenker	
Determination of the scattering length of the $a^3\Sigma^+$ potential of $^{87}\text{RbCs}$ (5 pages)	022707
E. Tiesinga, M. Anderlini, and E. Arimondo	
($e, 2e$) triple differential cross section of Mg in coplanar symmetric geometry (6 pages)	022708
Y. Khajuria, S. Sunil Kumar, and P. C. Deshmukh	
Measurement and calculation of absolute cross sections for excitation of the $3s^23p\ ^2P_{1/2}^o-3s^23p\ ^2P_{3/2}^o$ fine-structure transition in Fe^{13+} (6 pages)	022709
S. Hossain, S. S. Tayal, S. J. Smith, J. C. Raymond, and A. Chutjian	
Measurement of oscillator strength distribution in the discrete and continuous spectrum of lithium (9 pages)	022710
Shahid Hussain, M. Saleem, and M. A. Baig	
Measurements of partial cross sections and photoelectron angular distributions for the photodetachment of Fe^- and Cu^- at visible photon wavelengths (11 pages)	022711
A. M. Covington, Srividya S. Duvvuri, E. D. Emmons, R. G. Kraus, W. W. Williams, J. S. Thompson, D. Calabrese, D. L. Carpenter, R. D. Collier, T. J. Kvale, and V. T. Davis	
Attosecond-time-scale multielectron collisions in the Coulomb four-body problem: Traces in classical probability densities (8 pages)	022712
Agapi Emmanouilidou and Jan Michael Rost	
Collisional ionization of C^{9+} by He^{2+} and its applications in the inertial controlled fusion diagnostics (9 pages)	022713
Y. Ning, L. Liu, B. He, C. L. Liu, J. Yan, and J. G. Wang	
Dimension reduction for extracting geometrical structure of multidimensional phase space: Application to fast energy exchange in the reaction $\text{O}(^1D)+\text{N}_2\text{O}\rightarrow\text{NO}+\text{NO}$ (11 pages)	022714
Shinnosuke Kawai, Yo Fujimura, Okitsugu Kajimoto, Takefumi Yamashita, Chun-Biu Li, Tamiki Komatsuzaki, and Mikito Toda	
Collisional properties of sympathetically cooled ^{39}K (7 pages)	022715
L. De Sarlo, P. Maioli, G. Barontini, J. Catani, F. Minardi, and M. Inguscio	
Renormalized mean-field theory for a two-component Fermi gas with s -wave interactions (10 pages)	022716
Javier von Stecher and Chris H. Greene	
Differential double capture cross sections in $p+\text{He}$ collisions (6 pages)	022717
M. Schulz, T. Vajnai, and J. A. Brand	
Application of the J -matrix method to Faddeev-Merkuriev equations for ($e, 2e$) reactions: Beyond pseudostates (11 pages)	022718
S. A. Zaytsev, V. A. Knyr, Yu. V. Popov, and A. Lahmam-Bennani	
Giant structures in low-energy electron-deuterium-iodide elastic scattering cross section (4 pages)	022719
J. Horáček, K. Houfek, and M. Čížek	
<i>Ab initio</i> calculation of differential and total cross sections for the ionization of water vapor by protons (9 pages)	022720
O. Boudrioua, C. Champion, C. Dal Cappello, and Y. V. Popov	

PART B

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

Angular distribution of Au and U <i>L</i> x rays induced by 22.6-keV photons (7 pages)	022901
S. Santra, D. Mitra, M. Sarkar, and D. Bhattacharya	
Influence of realistic atom wall potentials in quantum reflection traps (4 pages)	022902
Javier Madroñero and Harald Friedrich	
Calculation of energy-loss straggling of C, Al, Si, and Cu for fast H, He, and Li ions (11 pages)	022903
C. C. Montanari, J. E. Miraglia, Santiago Heredia-Avalos, Rafael Garcia-Molina, and Isabel Abril	
Decay processes in the presence of thin superconducting films (5 pages)	022904
Per K. Rekdal and Bo-Sture K. Skagerstam	

Atomic and molecular processes in external fields

Radiation trapping in rubidium optical pumping at low buffer-gas pressures (6 pages)	023401
M. A. Rosenberry, J. P. Reyes, D. Tupa, and T. J. Gay	
Motional resonance coupling in cold multispecies Coulomb crystals (8 pages)	023402
B. Roth, P. Blythe, and S. Schiller	
Quasibound states and heteroclinic structures in the driven Morse potential (8 pages)	023403
Daungruthai Jarukanont, Kyungsun Na, and L. E. Reichl	
Intense laser-controlled quenching of molecular fragmentation (5 pages)	023404
C. Lefebvre, T. T. Nguyen-Dang, and O. Atabek	
Detection of radio-frequency magnetic fields using nonlinear magneto-optical rotation (6 pages)	023405
M. P. Ledbetter, V. M. Acosta, S. M. Rochester, D. Budker, S. Pustelny, and V. V. Yashchuk	
Hydrogen atom in crossed electric and magnetic fields: Phase space topology and torus quantization via periodic orbits (13 pages)	023406
Stephan Gekle, Jörg Main, Thomas Bartsch, and T. Uzer	
Two-dimensional electron momentum spectra of argon ionized by short intense lasers: Comparison of theory with experiment (7 pages)	023407
Toru Morishita, Zhangjin Chen, Shinichi Watanabe, and C. D. Lin	
Detection of a two-photon transition by stimulated emission: Amplification and circular birefringence (7 pages)	023408
S. Sanguinetti, E. Murè, and P. Minguzzi	
Adjustable multiple sub-Doppler traps in an asymmetric magneto-optical trap (4 pages)	023409
Myoung-sun Heo, Kihwan Kim, Ki-Hwan Lee, Dahyun Yum, Soyoung Shin, Yonghee Kim, Heung-Ryoul Noh, and Wonho Jhe	
Experimental and theoretical investigation of the Stark effect for manipulating cold molecules: Application to nitric oxide (14 pages)	023410
Bryan J. Bichsel, Michael A. Morrison, Neil Shafer-Ray, and E. R. I. Abraham	
Spectral hole burning in the dielectronic recombination from a continuum of finite bandwidth (6 pages)	023411
W. Yang, E. S. Shuman, and T. F. Gallagher	
Coherent responses of the resonance atom layer to short optical pulse excitation (8 pages)	023412
Sergei O. Elyutin	

Polarization-gradient laser cooling as a way to create strongly localized structures for atom lithography (6 pages)	023413
O. N. Prudnikov, A. V. Taichenachev, A. M. Tumaikin, and V. I. Yudin	
Matter waves	
Entanglement between atomic condensates in an optical lattice: Effects of interaction range (5 pages)	023601
H. T. Ng and K. Burnett	
Optimal quantum control of Bose-Einstein condensates in magnetic microtraps (10 pages)	023602
Ulrich Hohenester, Per Kristian Rekdal, Alfio Borzì, and Jörg Schmiedmayer	
Dynamics of the Bose-Hubbard model: Transition from a Mott insulator to a superfluid (7 pages)	023603
Fernando M. Cucchiatti, Bogdan Damski, Jacek Dziarmaga, and Wojciech H. Zurek	
Time-dependent hyperspherical studies for a two-dimensional attractive Bose-Einstein condensate (8 pages)	023604
Chien-Nan Liu, Toru Morishita, and Shinichi Watanabe	
Quantum dynamics of a spin-1 condensate in a double-well potential (13 pages)	023605
Ö. E. Müstecaplıoğlu, Wenxian Zhang, and L. You	
Polarized fermions in the unitarity limit (6 pages)	023606
Gautam Rupak, Thomas Schäfer, and Andrei Kryjevski	
Four-level atom interferometer with trichromatic laser fields (5 pages)	023607
Kazuhito Honda, Yoshiyuki Kobayashi, and Atsuo Morinaga	
(1+1)-dimensional Galilean supersymmetry in ultracold quantum gases (5 pages)	023608
Gustavo S. Lozano, Oliver Piguet, Fidel A. Schaposnik, and Lucas Sourrouille	
Using modified Gaussian distributions to study the physical properties of one- and two-component ultracold atoms (7 pages)	023609
Chou-Chun Huang and Wen-Chin Wu	
Thermodynamics of the BCS-BEC crossover (22 pages)	023610
R. Haussmann, W. Rantner, S. Cerrito, and W. Zwerger	
Collective modes of low-dimensional superfluid Fermi gases in the BCS-BEC crossover: Time-dependent variational analysis (9 pages)	023611
Yu Zhou and Guoxiang Huang	
Dressed molecules in resonantly interacting ultracold atomic Fermi gases (42 pages)	023612
G. M. Falco and H. T. C. Stoof	
Ground state of hard-core bosons in one-dimensional periodic potentials (6 pages)	023613
Yuan Lin and Biao Wu	
Mean-field thermodynamics of a spin-polarized spherically trapped Fermi gas at unitarity (13 pages)	023614
Xia-Ji Liu, Hui Hu, and Peter D. Drummond	
Atomtronics: Ultracold-atom analogs of electronic devices (12 pages)	023615
B. T. Seaman, M. Krämer, D. Z. Anderson, and M. J. Holland	
Self-bound droplet of Bose and Fermi atoms in one dimension: Collective properties in mean-field and Tonks-Girardeau regimes (8 pages)	023616
Luca Salasnich, Sadhan K. Adhikari, and Flavio Toigo	

Multicomponent gap solitons in spinor Bose-Einstein condensates (<i>11 pages</i>)	023617
Beata J. Dąbrowska-Wüster, Elena A. Ostrovskaya, Tristram J. Alexander, and Yuri S. Kivshar	
Spatial dynamics and spin squeezing in Bose-Einstein condensates (<i>7 pages</i>)	023618
Sulakshana Thanvanthri and Zachary Dutton	
Bose-Einstein-condensed systems in random potentials (<i>16 pages</i>)	023619
V. I. Yukalov and R. Graham	
Rapidly rotating boson molecules with long- or short-range repulsion: An exact diagonalization study (<i>14 pages</i>)	023620
Leslie O. Baksmaty, Constantine Yannouleas, and Uzi Landman	
Configuration-interaction studies of Bose-Einstein condensates (<i>8 pages</i>)	023621
T. Vänskä, D. Sundholm, and M. Lindberg	
Coexistence and shell structures of several superfluids in trapped three-component Fermi mixtures (<i>4 pages</i>)	023622
T. Paananen, P. Törmä, and J.-P. Martikainen	
Vortex lattices in Bose-Einstein condensates with dipolar interactions beyond the weak-interaction limit (<i>5 pages</i>)	023623
S. Komineas and N. R. Cooper	
Stationary localized modes of the quintic nonlinear Schrödinger equation with a periodic potential (<i>8 pages</i>)	023624
G. L. Alfimov, V. V. Konotop, and P. Pacciani	
Symmetry and inert states of spin Bose-Einstein condensates (<i>9 pages</i>)	023625
S.-K. Yip	
Quantum optics, physics of lasers, nonlinear optics, classical optics	
Ultrashort pulse control of space-dependent excitations in a three-level system (<i>9 pages</i>)	023801
Yu. Loiko, C. Serrat, R. Vilaseca, V. Ahufinger, J. Mompart, and R. Corbalán	
Numerical analysis of spatial propagation of parametric fluorescence photon pairs using the tuning-curve filtering method (<i>8 pages</i>)	023802
Hideki Fujiwara, Yoshio Kawabe, Shigeki Takeuchi, and Keiji Sasaki	
Photon-pair generation in optical fibers through four-wave mixing: Role of Raman scattering and pump polarization (<i>20 pages</i>)	023803
Q. Lin, F. Yaman, and Govind P. Agrawal	
Frequency-induced polarization bistability in vertical-cavity surface-emitting lasers with orthogonal optical injection (<i>7 pages</i>)	023804
I. Gatara, K. Panajotov, and M. Sciamanna	
Two-photon resonant four-wave mixing in a dressed atomic system: Polarization interference in a Doppler-broadened system (<i>11 pages</i>)	023805
Zhanchun Zuo, Jiang Sun, Xia Liu, Ling-An Wu, and Panming Fu	
Single-photon-state generation from a continuous-wave nondegenerate optical parametric oscillator (<i>8 pages</i>)	023806
Anne E. B. Nielsen and Klaus Mølmer	
Measurement of ground-state decoherence via interruption of coherent population trapping (<i>6 pages</i>)	023807
Anil K. Patnaik, Paul S. Hsu, Girish S. Agarwal, George R. Welch, and Marlan O. Scully	

CONTENTS - Continued

PHYSICAL REVIEW A

THIRD SERIES, VOLUME 75, NUMBER 2

FEBRUARY 2007

Optimizing the performance of nickel-like collisionally pumped x-ray lasers. II. Lasers for the wavelength range 50–100 Å (15 pages)	023808
G. J. Pert	
Tightly localized stationary pulses in a multilevel atomic system (5 pages)	023809
Xiong-Jun Liu, Xin Liu, Zheng-Xin Liu, L. C. Kwek, and C. H. Oh	
Generation of Fourier-transform-limited heralded single photons (9 pages)	023810
Alfred B. U'Ren, Yasser Jeronimo-Moreno, and Hipolito Garcia-Gracia	
Two-frequency Ramsey interferometry (7 pages)	023811
D. Seidel and J. G. Muga	
Cavity QED determination of atomic number statistics in optical lattices (9 pages)	023812
W. Chen, D. Meiser, and P. Meystre	
Self-focusing dynamics of coupled optical beams (5 pages)	023813
Amiel A. Ishaaya, Taylor D. Grow, Saikat Ghosh, Luat T. Vuong, and Alexander L. Gaeta	
Mode coupling and cavity–quantum-dot interactions in a fiber-coupled microdisk cavity (17 pages)	023814
Kartik Srinivasan and Oskar Painter	
Induced photon statistics in three-level lasers (8 pages)	023815
T. Golubeva, Yu. Golubev, and D. Ivanov	
Quantum interference in absorption and dispersion of a four-level atom in a double-band photonic crystal (7 pages)	023816
Samad Roshan Entezar and Habib Tajalli	

BRIEF REPORTS

Fundamental concepts

Berry's phase for coherent states of Landau levels (4 pages)	024101
Wen-Long Yang and Jing-Ling Chen	
Effects of a squeezed-vacuum reservoir on geometric phase (4 pages)	024102
Z. S. Wang, Chunfeng Wu, Xun-Li Feng, L. C. Kwek, C. H. Lai, and C. H. Oh	
Effect of classical noise on the geometric quantum phase (4 pages)	024103
Ji-Xuan Hou	

Quantum information

Resonant purification of mixed states for closed and open quantum systems (4 pages)	024301
Raffaele Romano	
Preparation of entangled states of four remote atomic qubits in decoherence-free subspace (4 pages)	024302
Z. J. Deng, M. Feng, and K. L. Gao	

Atomic and molecular structure and dynamics

Nonradiative formation of the positron-helium triplet bound state (4 pages)	024501
Joseph Di Rienzi and Richard J. Drachman	
Multiphoton ionization of lead monofluoride resonantly enhanced by the $X_1\ ^2\Pi_{1/2} \rightarrow B\ ^2\Sigma_{1/2}$ transition (3 pages)	024502
C. P. McRaven, P. Sivakumar, and N. E. Shafer-Ray	

(Continued)

Atomic and molecular collisions and interactions

Finite-temperature random-phase approximation for spectroscopic properties of neon plasmas (<i>4 pages</i>)	024701
J. Colgan, C. J. Fontes, G. Csanak, and L. A. Collins	
Different escape modes in two-photon double ionization of helium (<i>4 pages</i>)	024702
A. S. Kheifets, A. I. Ivanov, and I. Bray	

Clusters (including fullerenes)

Electronic structure of spheroidal fullerenes in a weak uniform magnetic field: A continuum field-theory model (<i>4 pages</i>)	025201
M. Pudlak, R. Pincak, and V. A. Osipov	

Atomic and molecular processes in external fields

Laser-field enhanced electron transfer in <i>p</i> -Ne and <i>p</i> -Ar collisions (<i>4 pages</i>)	025401
Tom Kirchner	

COMMENTS

Comment on “Quantum direct communication with authentication” (<i>4 pages</i>)	026301
Zhan-jun Zhang, Jun Liu, Dong Wang, and Shou-hua Shi	
Comment on “Generalization of Keldysh’s theory” (<i>3 pages</i>)	027401
Valentin N. Ostrovsky, Thomas Kim Kjeldsen, and Lars Bojer Madsen	
Reply to “Comment on ‘Generalization of Keldysh’s theory’ ” (<i>3 pages</i>)	027402
H. Mineo, S. D. Chao, K. Mishima, K. Nagaya, M. Hayashi, and S. H. Lin	

ERRATA

Publisher’s Note: Angular momentum effects in the ionization-with-excitation process of open and closed 3 <i>d</i> -shell states of zinc atoms [Phys. Rev. A 75 , 012721 (2007)] (<i>1 page</i>)	029901(E)
L. Pravica, J. F. Williams, D. Cvejanović, and S. A. Napier	
Publisher’s Note: Correlation of photon pairs from the double Raman amplifier: Generalized analytical quantum Langevin theory [Phys. Rev. A 75 , 013820 (2007)] (<i>1 page</i>)	029902(E)
C. H. Raymond Ooi, Qingqing Sun, M. Suhail Zubairy, and Marlan O. Scully	
Erratum: Ground-state energy of HeH ⁺ [Phys. Rev. A 73 , 064503 (2006)] (<i>1 page</i>)	029903(E)
Bing-Lu Zhou, Jiong-Ming Zhu, and Zong-Chao Yan	
Erratum: Photodetachment cross section of H [−] in a gradient electric field [Phys. Rev. A 59 , 2053 (1999)] (<i>1 page</i>)	029904(E)
Guangcan Yang and Mengli Du	
Erratum: Scalability of Shor’s algorithm with a limited set of rotation gates [Phys. Rev. A 70 , 032329 (2004)] (<i>1 page</i>)	029905(E)
Austin G. Fowler and Lloyd C. L. Hollenberg	
Publisher’s Note: Single-plane-wave Larkin-Ovchinnikov-Fulde-Ferrell state in BCS-BEC crossover [Phys. Rev. A 75 , 021602 (2007)] (<i>1 page</i>)	029906(E)
Yan He, Chih-Chun Chien, Qijin Chen, and K. Levin	

CONTENTS - *Continued*

PHYSICAL REVIEW A

THIRD SERIES, VOLUME 75, NUMBER 2

FEBRUARY 2007

Erratum: Reducing multiphoton ionization in a linearly polarized microwave field by local control [Phys. Rev. A 74 , 053408 (2006)] (<i>1 page</i>)	029907(E)
S. Huang, C. Chandre, and T. Uzer	
Publisher's Note: Hyperspherical description of the degenerate Fermi gas: <i>s</i> -wave interactions [Phys. Rev. A 74 , 053624 (2006)] (<i>1 page</i>)	029908(E)
Seth T. Rittenhouse, M. J. Cavagnero, Javier von Stecher, and Chris H. Greene	