

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 73, NUMBER 5

CONTENTS

MAY 2006

RAPID COMMUNICATIONS

Quantum information

- Solution to the mean king's problem with mutually unbiased bases for arbitrary levels (*4 pages*) 050301(R)
Gen Kimura, Hajime Tanaka, and Masanao Ozawa
- Deterministic and efficient quantum cryptography based on Bell's theorem (*4 pages*) 050302(R)
Zeng-Bing Chen, Qiang Zhang, Xiao-Hui Bao, Jörg Schmiedmayer, and Jian-Wei Pan

Atomic and molecular collisions and interactions

- Collective Feshbach scattering of a superfluid droplet from a mesoscopic two-component Bose-Einstein condensate (*4 pages*) 050701(R)
M. Grupp, G. Nandi, R. Walser, and W. P. Schleich

Clusters (including fullerenes)

- Coulomb explosion of simple metal clusters in intense laser fields (*4 pages*) 051201(R)
M. Belkacem, F. Megi, P.-G. Reinhard, E. Suraud, and G. Zwicknagel

Atomic and molecular processes in external fields

- Trapping atoms on a transparent permanent-magnet atom chip (*4 pages*) 051401(R)
A. Shevchenko, M. Heiliö, T. Lindvall, A. Jaakkola, I. Tuttonen, M. Kaivola, and T. Pfau
- Dynamics of triple-ionization-induced dissociation in diatomic molecules in strong fields (*4 pages*) 051402(R)
Jian Wu, H. Zeng, Jincheng Wang, and Chunlei Guo

Matter waves

- Searching for a supersolid in cold-atom optical lattices (*4 pages*) 051601(R)
V. W. Scarola, E. Demler, and S. Das Sarma
- Profiles of near-resonant population-imbalanced trapped Fermi gases (*4 pages*) 051602(R)
T. N. De Silva and E. J. Mueller
- Mean-field phase diagrams of imbalanced Fermi gases near a Feshbach resonance (*4 pages*) 051603(R)
Hui Hu and Xia-Ji Liu
- Exact results for three-body correlations in a degenerate one-dimensional Bose gas (*4 pages*) 051604(R)
Vadim V. Cheianov, H. Smith, and M. B. Zvonarev



Copyright 2006 by The American Physical Society

(Continued)



1050-2947(200605)73:5;1-K

Quantum optics, physics of lasers, nonlinear optics

Controlling the polarization rotation of an optical field via asymmetry in electromagnetically induced transparency (<i>4 pages</i>)	051801(R)
Bo Wang, Shujing Li, Jie Ma, Hai Wang, K. C. Peng, and Min Xiao	
Self-organized bundle of lasing filaments in dense media (<i>4 pages</i>)	051802(R)
L. Guyon, F. Courvoisier, V. Boutou, R. Nuter, A. Vinçotte, S. Champeaux, L. Bergé, P. Glorieux, and J.-P. Wolf	
Wavelength conversion via dynamic refractive index tuning of a cavity (<i>4 pages</i>)	051803(R)
Masaya Notomi and Satoshi Mitsugi	

ARTICLES

Fundamental concepts

Quantum trajectory method for the quantum Zeno and anti-Zeno effects (<i>12 pages</i>)	052101
J. Ruseckas and B. Kaulakys	
Thermal limitation of far-field matter-wave interference (<i>7 pages</i>)	052102
Klaus Hornberger	
Geometric phase in open systems: Beyond the Markov approximation and weak-coupling limit (<i>6 pages</i>)	052103
X. X. Yi, D. M. Tong, L. C. Wang, L. C. Kwek, and C. H. Oh	
Quantization of the canonically conjugate pair angle and orbital angular momentum (<i>26 pages</i>)	052104
H. A. Kastrup	
Specific heat of a particle on the cone (<i>5 pages</i>)	052105
E. S. Moreira, Jr. and E. S. Oliveira	
Tunneling in a magnetic field (<i>12 pages</i>)	052106
B. Ivlev	
Entanglement between collective operators in a linear harmonic chain (<i>7 pages</i>)	052107
Johannes Kofler, Vlatko Vedral, Myungshik S. Kim, and Časlav Brukner	
Local asymptotic normality for qubit states (<i>15 pages</i>)	052108
Mădălin Guță and Jonas Kahn	
Born rule in quantum and classical mechanics (<i>4 pages</i>)	052109
Paul Brumer and Jiangbin Gong	
Decay of quantum accelerator modes (<i>12 pages</i>)	052110
Michael Sheinman, Shmuel Fishman, Italo Guarneri, and Laura Rebuzzini	
Dynamical entanglement versus symmetry and dynamics of classical approximations (<i>10 pages</i>)	052111
Nikola Burić	
Role of initial state reconstruction in short- and long-time deviations from exponential decay (<i>5 pages</i>)	052112
J. G. Muga, F. Delgado, A. del Campo, and G. García-Calderón	
Friedel sum rule and Levinson theorem for massless Weyl fermions (<i>5 pages</i>)	052113
De-Hone Lin	
Pinning and transport of cyclotron (Landau) orbits by electromagnetic vortices (<i>13 pages</i>)	052114
Iwo Białynicki-Birula and Tomasz Radożycki	

Simultaneous histories, path sums, and measurements for noncommuting variables (<i>12 pages</i>)	052115
D. Sokolovski and R. Sala Mayato	
Better Bell-inequality violation by collective measurements (<i>7 pages</i>)	052116
Yeong-Cherng Liang and Andrew C. Doherty	
Temperature effects on mixed-state geometric phase (<i>5 pages</i>)	052117
A. T. Rezakhani and P. Zanardi	
Quantum information	
Integrable optical-fiber source of polarization-entangled photon pairs in the telecom band (<i>6 pages</i>)	052301
Xiaoying Li, Chuang Liang, Kim Fook Lee, Jun Chen, Paul L. Voss, and Prem Kumar	
Generalization of continuous-variable quantum cloning with linear optics (<i>5 pages</i>)	052302
Zehui Zhai, Juan Guo, and Jiangrui Gao	
Spin-bus concept of spin quantum computing (<i>12 pages</i>)	052303
Michael Mehring and Jens Mende	
Fidelity optimization for holonomic quantum gates in dissipative environments (<i>5 pages</i>)	052304
Daniele Parodi, Maura Sassetti, Paolo Solinas, Paolo Zanardi, and Nino Zanghì	
Decoherence induced by squeezing control errors in optical and ion trap holonomic quantum computations (<i>5 pages</i>)	052305
Viatcheslav I. Kuvshinov and Andrei V. Kuzmin	
Noise thresholds for optical cluster-state quantum computation (<i>26 pages</i>)	052306
Christopher M. Dawson, Henry L. Haselgrove, and Michael A. Nielsen	
Macroscopic Einstein-Podolsky-Rosen pairs in superconducting circuits (<i>9 pages</i>)	052307
L. F. Wei, Yu-xi Liu, Markus J. Storcz, and Franco Nori	
Information-theoretic temporal Bell inequality and quantum computation (<i>5 pages</i>)	052308
Fumiaki Morikoshi	
Atemporal diagrams for quantum circuits (<i>17 pages</i>)	052309
Robert B. Griffiths, Shengjun Wu, Li Yu, and Scott M. Cohen	
Range criterion and classification of true entanglement in a $2 \times M \times N$ system (<i>7 pages</i>)	052310
Lin Chen and Yi-Xin Chen	
Internal consistency of fault-tolerant quantum error correction in light of rigorous derivations of the quantum Markovian limit (<i>16 pages</i>)	052311
Robert Alicki, Daniel A. Lidar, and Paolo Zanardi	
Entanglement dynamics of electron-electron scattering in low-dimensional semiconductor systems (<i>9 pages</i>)	052312
F. Buscemi, P. Bordone, and A. Bertoni	
Entanglement generation via scattering of two particles with hard-core repulsion (<i>7 pages</i>)	052313
Frank Schmüser and Dominik Janzing	
Quantum separability and entanglement detection via entanglement-witness search and global optimization (<i>7 pages</i>)	052314
Lawrence M. Ioannou and Benjamin C. Travaglione	
Optimality of programmable quantum measurements (<i>4 pages</i>)	052315
D. Pérez-García	

Efficiency of coherent-state quantum cryptography in the presence of loss: Influence of realistic error correction (7 pages)	052316
Matthias Heid and Norbert Lütkenhaus	
Scheme for direct measurement of a general two-qubit Hamiltonian (5 pages)	052317
Simon J. Devitt, Jared H. Cole, and Lloyd C. L. Hollenberg	
Schmidt number for quantum operations (4 pages)	052318
Siendong Huang	
Energy and multipartite entanglement in multidimensional and frustrated spin models (9 pages)	052319
Otfried Gühne and Géza Tóth	
Quantum computation using weak nonlinearities: Robustness against decoherence (6 pages)	052320
Hyunseok Jeong	
Quantum half-adder (6 pages)	052321
Geraldo A. Barbosa	
Generation of bipartite spin entanglement via spin-independent scattering (4 pages)	052322
Lucas Lamata and Juan León	
Entanglement of indistinguishable particles in condensed-matter physics (12 pages)	052323
Mark R. Dowling, Andrew C. Doherty, and Howard M. Wiseman	
Quantum computation without strict strong coupling on a silicon chip (6 pages)	052324
Yun-Feng Xiao, Zheng-Fu Han, and Guang-Can Guo	
Spin entanglement loss by local correlation transfer to the momentum (7 pages)	052325
Lucas Lamata, Juan León, and David Salgado	
Infinite qubit rings with maximal nearest-neighbor entanglement: The Bethe ansatz solution (9 pages)	052326
U. V. Poulsen, T. Meyer, D. Bruß, and M. Lewenstein	
Entangling power of the baker's map: Role of symmetries (6 pages)	052327
Rômulo F. Abreu and Raúl O. Vallejos	
Tunable phase gate for two atoms with an immunity to decoherence (5 pages)	052328
Shi-Biao Zheng and Guang-Can Guo	
Atomic and molecular structure and dynamics	
Two-photon excitation dynamics in bound two-body Coulomb systems including ac Stark shift and ionization (24 pages)	052501
M. Haas, U. D. Jentschura, C. H. Keitel, N. Kolachevsky, M. Herrmann, P. Fendel, M. Fischer, Th. Udem, R. Holzwarth, T. W. Hänsch, M. O. Scully, and G. S. Agarwal	
Excitation energy of ^9Be (4 pages)	052502
Krzysztof Pachucki and Jacek Komasa	
Rydberg states of the hydrogen-antihydrogen quasimolecule (10 pages)	052503
V. Sharipov, L. Labzowsky, and G. Plunien	
Observing angular precession of a Rydberg wave packet due to spin-orbit coupling by orthogonally polarized weak half-cycle pulses (5 pages)	052504
H. Wen, S. N. Pisharody, J. M. Murray, and P. H. Bucksbaum	
Direct observation of the $^2\text{D}_{3/2}$ - $^2\text{D}_{5/2}$ ground-state splitting in Xe^{9+} (4 pages)	052505
E. Takács, B. Blagojevic, K. Makónyi, E.-O. Le Bigot, C. I. Szabó, Y.-K. Kim, and J. D. Gillaspay	

Zeeman effect of the hyperfine-structure levels in hydrogenlike ions (8 pages)	052506
D. L. Moskovkin and V. M. Shabaev	
Lifetime measurement of the Ar XIV $1s^2 2s^2 2p^2 P_{3/2}^o$ metastable level at the Heidelberg electron-beam ion trap (17 pages)	052507
A. Lapierre, J. R. Crespo López-Urrutia, J. Braun, G. Brenner, H. Bruhns, D. Fischer, A. J. González Martínez, V. Mironov, C. Osborne, G. Sikler, R. Soria Orts, H. Tawara, J. Ullrich, V. M. Shabaev, I. I. Tupitsyn, and A. Volotka	
Atomic and molecular collisions and interactions	
(e,2e) measurements on xenon: Reexamination of the fine-structure effect (9 pages)	052701
R. Panajotovic, J. Lower, E. Weigold, A. Prideaux, and D. H. Madison	
Cross sections for OH transitions due to electron impact on water molecules (9 pages)	052702
R. Scott Schappe and Erich Urban	
Electron-impact ionization of <i>L</i> -shell atomic species (8 pages)	052703
A. K. F. Haque, M. A. Uddin, A. K. Basak, K. R. Karim, B. C. Saha, and F. B. Malik	
Mass effects and internal space geometry in triatomic reaction dynamics (11 pages)	052704
Tomohiro Yanao, Wang S. Koon, and Jerrold E. Marsden	
Relativistic Ps^- and Ps (6 pages)	052705
U. I. Uggerhøj	
Electron-impact ionization of H_2 using a time-dependent close-coupling method (4 pages)	052706
M. S. Pindzola, F. Robicheaux, S. D. Loch, and J. P. Colgan	
<i>R</i> -matrix calculation of electron collisions with electronically excited O_2 molecules (8 pages)	052707
Motomichi Tashiro, Keiji Morokuma, and Jonathan Tennyson	
Dirac <i>R</i> -matrix calculation of electron-impact excitation of Ni xix (5 pages)	052708
G. X. Chen, K. Kirby, and N. S. Brickhouse	
Properties of quasi-one-dimensional molecules with Feshbach-resonance interaction (8 pages)	052709
V. A. Yurovsky	
Benchmarking high-field few-electron correlation and QED contributions in Hg^{75+} to Hg^{78+} ions. I. Experiment (10 pages)	052710
A. J. González Martínez, J. R. Crespo López-Urrutia, J. Braun, G. Brenner, H. Bruhns, A. Lapierre, V. Mironov, R. Soria Orts, H. Tawara, M. Trinczek, J. Ullrich, A. N. Artemyev, Z. Harman, U. D. Jentschura, C. H. Keitel, J. H. Scofield, and I. I. Tupitsyn	
Benchmarking high-field few-electron correlation and QED contributions in Hg^{75+} to Hg^{78+} ions. II. Theory (13 pages)	052711
Z. Harman, I. I. Tupitsyn, A. N. Artemyev, U. D. Jentschura, C. H. Keitel, J. R. Crespo López-Urrutia, A. J. González Martínez, H. Tawara, and J. Ullrich	
Convergence of configuration-interaction single-center calculations of positron-atom interactions (14 pages)	052712
J. Mitroy and M. W. J. Bromley	
Experimental separation of the Thomas charge-transfer process in high-velocity <i>p</i> -He collisions (5 pages)	052713
D. Fischer, K. Støchkel, H. Cederquist, H. Zettergren, P. Reinhard, R. Schuch, A. Källberg, A. Simonsson, and H. T. Schmidt	

Galilean invariance and gauge dependence of radiative capture (4 pages)	052714
A. B. Voitkiv	
Vibrational quenching at ultralow energies: Calculations of the $\text{Li}_2(^1\Sigma_g^+; \nu \gg 0) + \text{He}$ superelastic scattering cross sections (7 pages)	052715
Enrico Bodo, Franco A. Gianturco, and Ersin Yurtsever	
Clusters (including fullerenes)	
Effect of spin-orbit coupling on small platinum nanoclusters (5 pages)	053201
M. N. Huda, Manish K. Niranjana, B. R. Sahu, and Leonard Kleinman	
Controlled shock shells and intracluster fusion reactions in the explosion of large clusters (9 pages)	053202
F. Peano, R. A. Fonseca, J. L. Martins, and L. O. Silva	
Modified genetic algorithms to model cluster structures in medium-sized silicon clusters: $\text{Si}_{18}\text{-Si}_{60}$ (11 pages)	053203
Ofelia Oña, Victor E. Bazterra, María C. Caputo, Julio C. Facelli, Patricio Fuentealba, and Marta B. Ferraro	
Atomic and molecular processes in external fields	
Exploring the level sets of quantum control landscapes (9 pages)	053401
Adam Rothman, Tak-San Ho, and Herschel Rabitz	
Stimulated Raman adiabatic passage in a two-state system (4 pages)	053402
N. V. Vitanov and B. W. Shore	
Quantum control via the dynamic Stark effect: Application to switched rotational wave packets and molecular axis alignment (14 pages)	053403
Benjamin J. Sussman, Jonathan G. Underwood, R. Lausten, Misha Yu. Ivanov, and Albert Stolow	
Nonlinear magneto-optical rotation with frequency-modulated light in the geophysical field range (8 pages)	053404
V. Acosta, M. P. Ledbetter, S. M. Rochester, D. Budker, D. F. Jackson Kimball, D. C. Hovde, W. Gawlik, S. Pustelny, J. Zachorowski, and V. V. Yashchuk	
Ionization of Rydberg alkali-metal atoms in quasistatic electric fields: A classical view of the n^{-5} scaling of the threshold field (10 pages)	053405
Luca Perotti	
Simultaneous magneto-optical trapping of bosonic and fermionic chromium atoms (7 pages)	053406
R. Chicireanu, A. Pouderous, R. Barbé, B. Laburthe-Tolra, E. Maréchal, L. Vernac, J.-C. Keller, and O. Gorceix	
Laser-assisted electron-helium scattering at very low collision energies (7 pages)	053407
K. M. Dunseath and M. Terao-Dunseath	
Control of long electron quantum paths in high-order harmonic generation by phase-stabilized light pulses (7 pages)	053408
G. Sansone, E. Benedetti, J.-P. Caumes, S. Stagira, C. Vozzi, S. De Silvestri, and M. Nisoli	
Electron-positron pair creation by powerful laser-ion impact (9 pages)	053409
P. Sieczka, K. Krajewska, J. Z. Kamiński, P. Panek, and F. Ehlötzky	
Alignment enhancement of a symmetric top molecule by two short laser pulses (9 pages)	053410
Christer Z. Bisgaard, Simon S. Viftrup, and Henrik Stapelfeldt	

Gauge-invariant relativistic strong-field approximation (<i>7 pages</i>)	053411
Michael Klaiber, Karen Z. Hatsagortsyan, and Christoph H. Keitel	
Matter waves	
Dark solitons as quasiparticles in trapped condensates (<i>14 pages</i>)	053601
V. A. Brazhnyi, V. V. Konotop, and L. P. Pitaevskii	
Bright solitons in Bose-Fermi mixtures (<i>6 pages</i>)	053602
Tomasz Karpiuk, Mirosław Brewczyk, and Kazimierz Rząewski	
Quasicondensate growth on an atom chip (<i>11 pages</i>)	053603
N. P. Proukakis, J. Schmiedmayer, and H. T. C. Stoof	
Imaging of critical correlations in optical lattices and atomic traps (<i>9 pages</i>)	053604
Qian Niu, Iacopo Carusotto, and A. B. Kuklov	
Density distributions for trapped one-dimensional spinor gases (<i>6 pages</i>)	053605
Yajiang Hao, Yunbo Zhang, J. Q. Liang, and Shu Chen	
Pairing in a three-component Fermi gas (<i>6 pages</i>)	053606
T. Paananen, J.-P. Martikainen, and P. Törmä	
Properties of strongly paired fermionic condensates (<i>15 pages</i>)	053607
J. Levinsen and V. Gurarie	
Vortex state in a Bose-Fermi mixture with attraction between bosons and fermions (<i>7 pages</i>)	053608
A. M. Belemuk, N. M. Chtchelkatchev, V. N. Ryzhov, and S.-T. Chui	
Resonant quantum dynamics of neutral spin-1 particles in a magnetic guide (<i>9 pages</i>)	053609
Johannes Bill, Martin-I. Trappe, Igor Lesanovsky, and Peter Schmelcher	
Matter-wave solitons supported by dissipation (<i>6 pages</i>)	053610
Adrian Alexandrescu and Víctor M. Pérez-García	
Stability analysis for n -component Bose-Einstein condensate (<i>4 pages</i>)	053611
David C. Roberts and Masahito Ueda	
Molecular vortex generated from an atom-molecule dark state (<i>6 pages</i>)	053612
H. Y. Ling, S. Yi, H. Pu, D. E. Grochowski, and Weiping Zhang	
Simulating high-temperature superconductivity model Hamiltonians with atoms in optical lattices (<i>8 pages</i>)	053613
Alexander Klein and Dieter Jaksch	
Quantum optics, physics of lasers, nonlinear optics	
Modified two-photon absorption and dispersion of ultrafast third-order polarization beats via twin noisy driving fields (<i>14 pages</i>)	053801
Yanpeng Zhang, Chenli Gan, and Min Xiao	
Coherent imaging of a pure phase object with classical incoherent light (<i>12 pages</i>)	053802
M. Bache, D. Magatti, F. Ferri, A. Gatti, E. Brambilla, and L. A. Lugiato	
Stability, gain, and robustness in quantum feedback networks (<i>13 pages</i>)	053803
C. D'Helon and M. R. James	
Optical pumping-assisted electromagnetically induced transparency (<i>7 pages</i>)	053804
Wei Jiang, Qun-feng Chen, Yong-sheng Zhang, and G.-C. Guo	

Enhanced frequency conversion of nonadiabatic resonant pulses in coherently prepared Λ systems (8 pages)	053805
A. Eilam, A. D. Wilson-Gordon, and H. Friedmann	
Bright entanglement in the intracavity nonlinear coupler (6 pages)	053806
M. K. Olsen	
Emission spectra and quantum efficiency of single-photon sources in the cavity-QED strong-coupling regime (14 pages)	053807
Guoqiang Cui and M. G. Raymer	
Analysis of photon-atom entanglement generated by Faraday rotation in a cavity (5 pages)	053808
S. K. Y. Lee and C. K. Law	
Cooperative spin decoherence and population transfer (11 pages)	053809
C. Genes and P. R. Berman	
Frequency-dependent squeeze-amplitude attenuation and squeeze-angle rotation by electromagnetically induced transparency for gravitational-wave interferometers (5 pages)	053810
Eugeniy E. Mikhailov, Keisuke Goda, Thomas Corbitt, and Nergis Mavalvala	
Enhancing Kerr nonlinearity via spontaneously generated coherence (6 pages)	053811
Yueping Niu and Shangqing Gong	
Ultrafast third-harmonic generation from textured aluminum nitride-sapphire interfaces (12 pages)	053812
D. S. Stoker, J. Baek, W. Wang, D. Kovar, M. F. Becker, and J. W. Keto	
Dynamic control of the photonic stop bands formed by a standing wave in inhomogeneous broadening solids (6 pages)	053813
Qiong-Yi He, Jin-Hui Wu, Tie-Jun Wang, and Jin-Yue Gao	
Evaluation of cavity quantum electrodynamics parameters for a planar-cavity geometry (5 pages)	053814
Kazuki Koshino	
Self-pulsing of a monolithic Tm-doped YAlO_3 microlaser (5 pages)	053815
Igor Razdobreev and Alexander Shestakov	
Nonclassical photon statistics (8 pages)	053816
C. Bendjaballah	
Spin squeezing and entanglement in a dispersive cavity (4 pages)	053817
R. N. Deb, M. Sebawe Abdalla, S. S. Hassan, and N. Nayak	
Dynamic control of coherent pulses via Fano-type interference in asymmetric double quantum wells (6 pages)	053818
Jin-Hui Wu, Jin-Yue Gao, Ji-Hua Xu, L. Silvestri, M. Artoni, G. C. La Rocca, and F. Bassani	
Effects of spatial transverse correlations in second-harmonic generation (6 pages)	053819
D. S. Ether, P. H. Souto Ribeiro, C. H. Monken, and R. L. de Matos Filho	
Development of spatial turbulence from boundary-controlled patterns in class-B lasers (6 pages)	053820
Eduardo Cabrera, Oscar G. Calderón, Sonia Melle, and J. M. Guerra	
Propagation of ultrashort pulses in multilevel systems under electromagnetically induced transparency (7 pages)	053821
Luís E. E. de Araujo	
Emission spectrum of a harmonically trapped two-level atom (7 pages)	053822
Hong Guo and Li-yan Zhao	

CONTENTS - Continued

PHYSICAL REVIEW A

THIRD SERIES, VOLUME 73, NUMBER 5

MAY 2006

Angular momentum of light in an optical nanofiber (7 pages)	053823
Fam Le Kien, V. I. Balykin, and K. Hakuta	
Observation of repetitively nanosecond pulse-width transverse patterns in microchip self- <i>Q</i> -switched laser (7 pages)	053824
Jun Dong and Ken-ichi Ueda	

BRIEF REPORTS

Fundamental concepts

Open-quantum-system formulation of particle decay (4 pages)	054101
Reinhold A. Bertlmann, Walter Grimus, and Beatrix C. Hiesmayr	

Quantum information

Simple scheme for generating four-photon polarization-entangled decoherence-free states using spontaneous parametric down-conversions (4 pages)	054301
XuBo Zou, Jing Shu, and GuangCan Guo	
Relativistic quantum walks (4 pages)	054302
Frederick W. Strauch	
Improving the fidelity of deletion (4 pages)	054303
Satyabrata Adhikari and B. S. Choudhury	
Linear optical scheme for error-free entanglement distribution and a quantum repeater (3 pages)	054304
Demetrios Kalamidas	

Atomic and molecular structure and dynamics

Contribution of nuclear displacements to the static polarizability of molecules in an external electric field: Application to fluorinated fullerenes $C_{60}F_n$ (4 pages)	054501
K. Zagorodniy, M. Taut, and H. Hermann	
Energy and expectation values of the PsH system (3 pages)	054502
J. Mitroy	

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

Energy loss of 100-keV hydrogen atoms during grazing scattering from Cu(111) (4 pages)	054901
S. Lederer and H. Winter	

Matter waves

Improving wave-packet revivals in circular billiards by applying constant magnetic fields (4 pages)	055601
G. J. Delben, A. Gusso, and M. G. E. da Luz	

ERRATA

Erratum: Entangled-state cryptographic protocol that remains secure even if nonlocal hidden variables exist and can be measured with arbitrary precision [Phys. Rev. A 73 , 034303 (2006)] (1 page)	059901(E)
Diederik Aerts, Marek Czachor, and Marcin Pawłowski	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW A

THIRD SERIES, VOLUME 73, NUMBER 5

MAY 2006

Erratum: Comparative studies of the nonlinear effects occurring when highly charged projectiles collide with hydrogen, a free electron gas, and a harmonic oscillator [Phys. Rev. A 72 , 042902 (2005)] (<i>1 page</i>)	059902(E)
J. E. Miraglia and M. S. Gravielle	
Publisher's Note: Comment on "Strong-field ionization of laser-irradiated light homonuclear diatomic molecules: A generalized strong-field approximation-linear combination of atomic orbitals model" [Phys. Rev. A 73 , 047401 (2006)] (<i>1 page</i>)	059903(E)
Thomas Kim Kjeldsen and Lars Bojer Madsen	
Erratum: Role of nuclear spin in photoionization: Hyperfine-resolved photoionization of Xe and multichannel quantum defect theory analysis [Phys. Rev. A 71 , 052504 (2005)] (<i>1 page</i>)	059904(E)
H. J. Wörner, M. Grütter, E. Vliegen, and F. Merkt	
Publisher's Note: Cross sections for OH transitions due to electron impact on water molecules [Phys. Rev. A 73 , 052702 (2006)] (<i>1 page</i>)	059905(E)
R. Scott Schappe and Erich Urban	
Publisher's Note: Integrable optical-fiber source of polarization-entangled photon pairs in the telecom band [Phys. Rev. 73 , 052301 (2006)] (<i>1 page</i>)	059906(E)
Xiaoying Li, Chuang Liang, Kim Fook Lee, Jun Chen, Paul L. Voss, and Prem Kumar	
Erratum: Zero-point cooling and low heating of trapped $^{111}\text{Cd}^+$ ions [Phys. Rev. A 70 , 043408 (2004)] (<i>1 page</i>)	059907(E)
L. Deslauriers, P. C. Haljan, P. J. Lee, K-A. Brickman, B. B. Blinov, M. J. Madsen, and C. Monroe	