

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 74, NUMBER 2
PARTS A AND B

CONTENTS

AUGUST 2006

The Table of Contents is a total listing of Parts A and B.
Part A consists of pages 020101(R)-022721, and Part B pages 023201-029905(E).

PART A

ANNOUNCEMENT: In Memory of Lorenzo M. Narducci i

RAPID COMMUNICATIONS

Fundamental concepts

Exact Casimir interaction between eccentric cylinders (*4 pages*) 020101(R)
D. A. R. Dalvit, F. C. Lombardo, F. D. Mazzitelli, and R. Onofrio

Decoherence and quantum walks: Anomalous diffusion and ballistic tails (*4 pages*) 020102(R)
N. V. Prokof'ev and P. C. E. Stamp

Quantum information

Fidelity estimation and entanglement verification for experimentally produced four-qubit cluster states
(*4 pages*) 020301(R)
Yuuki Tokunaga, Takashi Yamamoto, Masato Koashi, and Nobuyuki Imoto

Experimental implementation of high-fidelity unconventional geometric quantum gates using an NMR
interferometer (*4 pages*) 020302(R)
Jiangfeng Du, Ping Zou, and Z. D. Wang

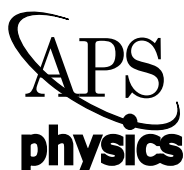
Atomic and molecular structure and dynamics

Relativistic coupled-cluster theory of quadrupole moments and hyperfine structure constants of $5d$ states in
 Ba^+ (*4 pages*) 020501(R)
Bijaya Kumar Sahoo

Multipolar theory of blackbody radiation shift of atomic energy levels and its implications for optical lattice
clocks (*4 pages*) 020502(R)
Sergey G. Porsev and Andrei Derevianko

Atomic and molecular collisions and interactions

Cold Cs Rydberg-gas interactions (*4 pages*) 020701(R)
Arne Schwettmann, Jeff Crawford, K. Richard Overstreet, and James P. Shaffer



Copyright 2006 by The American Physical Society

(Continued)



1050-2947(200608)74:2;1-6

Matter waves

- Beaming matter waves from a subwavelength aperture (*4 pages*) 021601(R)
 A. I. Fernández-Domínguez, Esteban Moreno, L. Martín-Moreno, and F. J. García-Vidal
- Finite temperature effects in trapped Fermi gases with population imbalance (*4 pages*) 021602(R)
 Chih-Chun Chien, Qijin Chen, Yan He, and K. Levin

Quantum optics, physics of lasers, nonlinear optics

- Sagnac effect in resonant microcavities (*4 pages*) 021801(R)
 Satoshi Sunada and Takahisa Harayama
- Measurement of radiation-pressure-induced optomechanical dynamics in a suspended Fabry-Perot cavity
 (*14 pages*) 021802(R)
 Thomas Corbitt, David Ottaway, Edith Innerhofer, Jason Pelc, and Nergis Mavalvala

ARTICLES

Fundamental concepts

- Greenberger-Horne-Zeilinger argument of nonlocality without inequalities for mixed states (*6 pages*) 022101
 GianCarlo Ghirardi and Luca Marinatto
- Quantum dynamics in fluctuating traps: Master equation, decoherence, and heating (*16 pages*) 022102
 Thimo Grotz, Libby Heaney, and Walter T. Strunz
- Experimental test for the conductivity properties from the Casimir force between metal and semiconductor
 (*14 pages*) 022103
 F. Chen, U. Mohideen, G. L. Klimchitskaya, and V. M. Mostepanenko
- Greenberger-Horne-Zeilinger-type and *W*-type entangled coherent states: Generation and Bell-type inequality
 tests without photon counting (*8 pages*) 022104
 Hyunseok Jeong and Nguyen Ba An
- Role of the electromagnetic field in the formation of domains in the process of symmetry-breaking phase
 transitions (*9 pages*) 022105
 Emilio Del Giudice and Giuseppe Vitiello
- Noncyclic geometric changes of quantum states (*5 pages*) 022106
 David Kult, Johan Åberg, and Erik Sjöqvist

Quantum information

- Spin decoherence from Hamiltonian dynamics in quantum dots (*11 pages*) 022301
 D. D. Bhaktavatsala Rao, V. Ravishankar, and V. Subrahmanyam
- Relation between two measures of entanglement in spin-1/2 and spinless fermion quantum chain systems
 (*6 pages*) 022302
 Xiao-Feng Qian and Z. Song
- Experimental quantum teleportation with a three-Bell-state analyzer (*12 pages*) 022303
 J. A. W. van Houwelingen, A. Beveratos, N. Brunner, N. Gisin, and H. Zbinden
- Experimentally realizable quantum comparison of coherent states and its applications (*11 pages*) 022304
 Erika Andersson, Marcos Curty, and Igor Jex

Detecting a set of entanglement measures in an unknown tripartite quantum state by local operations and classical communication (<i>8 pages</i>)	022305
Yan-Kui Bai, Shu-Shen Li, Hou-Zhi Zheng, and Z. D. Wang	
Quantum optimal control theory and dynamic coupling in the spin-boson model (<i>18 pages</i>)	022306
H. Jirari and W. Pötz	
Practical evaluation of security for quantum key distribution (<i>19 pages</i>)	022307
Masahito Hayashi	
Class of positive partial transposition states (<i>4 pages</i>)	022308
Dariusz Chruściński and Andrzej Kossakowski	
Experimental polarization state tomography using optimal polarimeters (<i>7 pages</i>)	022309
Alexander Ling, Kee Pang Soh, Antía Lamas-Linares, and Christian Kurtsiefer	
Quantum walks with random phase shifts (<i>9 pages</i>)	022310
Jozef Košík, Vladimír Bužek, and Mark Hillery	
Quantum memory scheme based on optical fibers and cavities (<i>6 pages</i>)	022311
Patrick M. Leung and Timothy C. Ralph	
Microwave potentials and optimal control for robust quantum gates on an atom chip (<i>13 pages</i>)	022312
Philipp Treutlein, Theodor W. Hänsch, Jakob Reichel, Antonio Negretti, Markus A. Cirone, and Tommaso Calarco	
Effects of detector efficiency mismatch on security of quantum cryptosystems (<i>11 pages</i>)	022313
Vadim Makarov, Andrey Anisimov, and Johannes Skaar	
Operational classification and quantification of multipartite entangled states (<i>13 pages</i>)	022314
Gustavo Rigolin, Thiago R. de Oliveira, and Marcos C. de Oliveira	
Deterministic secure communications using two-mode squeezed states (<i>5 pages</i>)	022315
Alberto M. Marino and C. R. Stroud, Jr.	
Optimal partial estimation of quantum states from several copies (<i>5 pages</i>)	022316
Ladislav Mišta, Jr. and Jaromír Fiurášek	
Generalized decoding, effective channels, and simplified security proofs in quantum key distribution (<i>9 pages</i>)	022317
Joseph M. Renes and Markus Grassl	
Group-theoretical approach to entanglement (<i>8 pages</i>)	022318
J. K. Korbicz and M. Lewenstein	
Optimal control of a single qubit by direct inversion (<i>13 pages</i>)	022319
M. Wenin and W. Pötz	
Classical simulation of quantum many-body systems with a tree tensor network (<i>4 pages</i>)	022320
Y.-Y. Shi, L.-M. Duan, and G. Vidal	
Single atom as a macroscopic entanglement source (<i>5 pages</i>)	022321
Ling Zhou, Han Xiong, and M. Suhail Zubairy	
Divergence of the entanglement range in low-dimensional quantum systems (<i>5 pages</i>)	022322
L. Amico, F. Baroni, A. Fubini, D. Patanè, V. Tognetti, and Paola Verrucchi	
Engineering of arbitrary $U(N)$ transformations by quantum Householder reflections (<i>8 pages</i>)	022323
P. A. Ivanov, E. S. Kyoseva, and N. V. Vitanov	

Scaling behavior of the adiabatic Dicke model (<i>4 pages</i>)	022324
Giuseppe Liberti, Francesco Plastina, and Franco Piperno	
Optical implementation of the encoding of two qubits to a single qutrit (<i>6 pages</i>)	022325
Lucie Bartůšková, Antonín Černoch, Radim Filip, Jaromír Fiurášek, Jan Soubusta, and Miloslav Dušek	
Entanglement and the lower bounds on the speed of quantum evolution (<i>8 pages</i>)	022326
A. Borrás, M. Casas, A. R. Plastino, and A. Plastino	
Entanglement properties of quantum spin chains (<i>5 pages</i>)	022327
Stein Olav Skrøvseth	
Decoherence effects on the quantum spin channels (<i>6 pages</i>)	022328
Jian-Ming Cai, Zheng-Wei Zhou, and Guang-Can Guo	
Entanglement scaling in critical two-dimensional fermionic and bosonic systems (<i>5 pages</i>)	022329
T. Barthel, M.-C. Chung, and U. Schollwöck	
Quantum computing with magnetic atoms in optical lattices of reduced periodicity (<i>6 pages</i>)	022330
Boris Ravaine, Andrei Derevianko, and P. R. Berman	
Quantum entanglement via nilpotent polynomials (<i>34 pages</i>)	022331
Aikaterini Mandilara, Vladimir M. Akulin, Andrei V. Smilga, and Lorenza Viola	
Secure quantum bit commitment against empty promises (<i>6 pages</i>)	022332
Guang Ping He	
Atomic and molecular structure and dynamics	
Laser-assisted antihydrogen formation (<i>11 pages</i>)	022501
A. Chattopadhyay and C. Sinha	
Ionic dipole and quadrupole matrix elements from nonadiabatic core polarization (<i>9 pages</i>)	022502
E. S. Shuman and T. F. Gallagher	
Measurement of the $6d^2D_J$ hyperfine structure of cesium using resonant two-photon sub-Doppler spectroscopy (<i>6 pages</i>)	022503
A. Kortyna, N. A. Masluk, and T. Bragdon	
Relativistic many-body calculations of the Stark-induced amplitude of the $6P_{1/2}$ - $7P_{1/2}$ transition in thallium (<i>5 pages</i>)	022504
M. S. Safronova, W. R. Johnson, U. I. Safronova, and T. E. Cowan	
High-resolution microwave-optical double-resonance spectroscopy of hyperfine splitting of trapped $^{113}\text{Cd}^+$ ions (<i>5 pages</i>)	022505
B. M. Jelenković, S. Chung, J. D. Prestage, and L. Maleki	
Noncrossing theorem for the ground ensembles of systems with noninteger particle numbers (<i>6 pages</i>)	022506
Espen Sagvolden	
Expectation value constraints for the N -representability problem (<i>12 pages</i>)	022507
Neil Shenvi and K. Birgitta Whaley	
Hyperfine-structure splitting in beryllium-muonic ions and atoms (<i>5 pages</i>)	022508
Alexei M. Frolov	
Calculation of the fourth-rank nuclear magnetic hypershielding of some small molecules (<i>7 pages</i>)	022509
G. I. Pagola, M. C. Caputo, M. B. Ferraro, and P. Lazzeretti	

Third-order many-body perturbation theory calculations for the beryllium and magnesium isoelectronic sequences (9 pages)	022510
H. C. Ho, W. R. Johnson, S. A. Blundell, and M. S. Safronova	
Optimized effective potential in real time: Problems and prospects in time-dependent density-functional theory (7 pages)	022511
Michael Mundt and Stephan Kümmel	
$\alpha^4\mathcal{R}$ corrections to singlet states of helium (17 pages)	022512
Krzysztof Pachucki	
Atomic and molecular collisions and interactions	
Multiple ionization of Ar by F^- impact: Projectile-electron-loss and direct-ionization collision channels (8 pages)	022701
M. M. Sant'Anna, F. Zappa, A. C. F. Santos, L. F. S. Coelho, W. Wolff, A. L. F. de Barros, and N. V. de Castro Faria	
Comparative study for elastic electron collisions on C_2N_2 isomers (8 pages)	022702
S. E. Michelin, A. S. Falck, K. T. Mazon, J. J. Piacentini, M. A. Scopel, L. S. S. da Silva, H. L. Oliveira, M. M. Fujimoto, I. Iga, and M.-T. Lee	
Quantum state-to-state cross sections for atom-diatom reactions: A Chebyshev real wave-packet approach (8 pages)	022703
Shi Ying Lin and Hua Guo	
Resonant photoionization of singly charged sulfur (11 pages)	022704
S. S. Tayal	
<i>Ab initio</i> study of Tm-He interactions and dynamics in a magnetic trap (6 pages)	022705
A. A. Buchachenko, G. Chałasiński, M. M. Szczęśniak, and R. V. Krems	
<i>R</i> -matrix calculation of differential cross sections for low-energy electron collisions with ground-state and electronically excited-state O_2 molecules (8 pages)	022706
Motomichi Tashiro, Keiji Morokuma, and Jonathan Tennyson	
Angular and high-frequency analysis of electron interference structures in ~ 60 MeV/u $Kr^{34+} + H_2$ collisions (6 pages)	022707
J. A. Tanis, J.-Y. Chesnel, B. Sulik, B. Skogvall, P. Sobocinski, A. Cassimi, J.-P. Grandin, L. Adoui, D. Hennecart, and N. Stolterfoht	
Triply charged carbon dioxide molecular ion: Formation and fragmentation (4 pages)	022708
R. K. Singh, G. S. Lodha, Vandana Sharma, I. A. Prajapati, K. P. Subramanian, and B. Bapat	
Low-energy capture of antiprotons by helium ions (10 pages)	022709
Kazuhiro Sakimoto	
Stationary phase approximation for the strength of optical Feshbach resonances (9 pages)	022710
R. Ciuryło, E. Tiesinga, and P. S. Julienne	
Low-energy electron scattering by N_2O (6 pages)	022711
M. H. F. Bettega, C. Winstead, and V. McKoy	
Analytical solutions for the dynamics of two trapped interacting ultracold atoms (14 pages)	022712
Zbigniew Idziaszek and Tommaso Calarco	

Polarization measurements of the Lyman- α_1 x-ray emission lines of hydrogenlike Ar ¹⁷⁺ and Fe ²⁵⁺ at high electron-impact energies (5 pages)	022713
D. L. Robbins, P. Beiersdorfer, A. Ya. Faenov, T. A. Pikuz, D. B. Thorn, H. Chen, K. J. Reed, A. J. Smith, K. R. Boyce, G. V. Brown, R. L. Kelley, C. A. Kilbourne, and F. S. Porter	
Differential and integrated cross sections for excitation to the 3s, 3p, and 3d states of atomic hydrogen by electron impact below the $n=4$ threshold (7 pages)	022714
Philip L. Bartlett, J. F. Williams, Igor Bray, A. G. Mikosza, and Andris T. Stelbovics	
Photoionization cross section measurements of the 3p ^{1,3} P excited states of helium in the near-threshold region (5 pages)	022715
Shahid Hussain, M. Saleem, M. Rafiq, and M. A. Baig	
Quasistatic interpretation of the He- and Ne-induced blue asymmetry of the 326.1-nm Cd line shapes in the core and near-wing regions (10 pages)	022716
Ryszard S. Trawiński, Roman Ciuryło, and Józef Szudy	
Angular distribution of characteristic photons after radiative electron capture at strong central fields (17 pages)	022717
E. G. Drukarev, X. Ma, A. I. Mikhailov, I. A. Mikhailov, and P. H. Mokler	
Systematics of $K\alpha$ x-ray satellite structure (9 pages)	022718
V. Horvat, R. L. Watson, and Yong Peng	
Positivity of Bloch-Boltzmann equations (8 pages)	022719
Stanisław Kryszewski and Justyna Czechowska	
Equivalent multipole operators for degenerate Rydberg states (12 pages)	022720
V. N. Ostrovsky, D. Vranceanu, and M. R. Flannery	
Theoretical calculations of the total and ionization cross sections for electron impact on some simple biomolecules (6 pages)	022721
Minaxi Vinodkumar, K. N. Joshipura, Chetan Limbachiya, and Nigel Mason	

PART B**Clusters (including fullerenes)**

Coulomb explosion of hydrogen clusters irradiated by an ultrashort intense laser pulse (9 pages)	023201
Hongyu Li, Jiansheng Liu, Cheng Wang, Guoquan Ni, Ruxin Li, and Zhizhan Xu	
Dipole polarizabilities of medium-sized gold clusters (5 pages)	023202
Jinlan Wang, Mingli Yang, Julius Jellinek, and Guanghou Wang	

Atomic and molecular processes in external fields

Sympathetic cooling of fullerene ions by laser-cooled Mg ⁺ ions in a linear rf trap (5 pages)	023401
Vladimir L. Ryjkov, XianZhen Zhao, and Hans A. Schuessler	
Photodetachment of H ⁻ by a short laser pulse in crossed static electric and magnetic fields (20 pages)	023402
Liang-You Peng, Qiaoling Wang, and Anthony F. Starace	
High-order harmonic generation from arbitrarily oriented diatomic molecules including nuclear motion and field-free alignment (10 pages)	023403
C. B. Madsen and L. B. Madsen	

Creation and control of a single coherent attosecond xuv pulse by few-cycle intense laser pulses (7 pages)	023404
Juan J. Carrera, X. M. Tong, and Shih-I Chu	
Frequency shift of hyperfine transitions due to blackbody radiation (8 pages)	023405
E. J. Angstmann, V. A. Dzuba, and V. V. Flambaum	
Realization of an intense cold Rb atomic beam based on a two-dimensional magneto-optical trap: Experiments and comparison with simulations (11 pages)	023406
Saptarishi Chaudhuri, Sanjukta Roy, and C. S. Unnikrishnan	
Strong-field ionization of atoms and molecules: The two-term saddle-point method (8 pages)	023407
Thomas Kim Kjeldsen and Lars Bojer Madsen	
Dark pulses for resonant two-photon transitions (6 pages)	023408
P. Panek and A. Becker	
Self-driven nonlinear dynamics in magneto-optical traps (4 pages)	023409
T. Pohl, G. Labeyrie, and R. Kaiser	
Sub-Doppler magneto-optical trap temperatures measured using Rydberg tagging (7 pages)	023410
J. Tallant, K. R. Overstreet, A. Schwettmann, and J. P. Shaffer	
Above-threshold ionization of Mg by linearly and circularly polarized laser fields: Origin of the subpeaks in the photoelectron energy spectra (9 pages)	023411
Takashi Nakajima and Gabriela Buica	
High-order above-threshold ionization of argon: Plateau resonances and the Floquet quasienergy spectrum (11 pages)	023412
R. M. Potvliege and Svetlana Vučić	
Oscillator strength spectrum of hydrogen in strong magnetic and electric fields with arbitrary mutual orientation (11 pages)	023413
Xiaoxu Guan	
Matter waves	
Creation of macroscopic superpositions of flow states with Bose-Einstein condensates (7 pages)	023601
Jacob Dunningham and David Hallwood	
Stabilization of a matter-wave droplet in free space by feedback control of interatomic interactions (7 pages)	023602
Hiroki Saito and Masahito Ueda	
Stability and dynamics of vortex clusters in nonrotated Bose-Einstein condensates (6 pages)	023603
V. Pietilä, M. Möttönen, T. Isoshima, J. A. M. Huhtamäki, and S. M. M. Virtanen	
Vortex properties of a resonant superfluid (6 pages)	023604
Meng Gao, Hongyu Wu, and Lan Yin	
Generation and detection of matter-wave gap vortices in optical lattices (7 pages)	023605
Elena A. Ostrovskaya, Tristram J. Alexander, and Yuri S. Kivshar	
Fermionic superfluidity with positive scattering length (6 pages)	023606
Bout Marcelis and Servaas Kokkelmans	

Deviation from one dimensionality in stationary properties and collisional dynamics of matter-wave solitons (8 pages)	023607
Lev Khaykovich and Boris A. Malomed	
Landau functions for noninteracting bosons (5 pages)	023608
Andreas Sinner, Florian Schütz, and Peter Kopietz	
Single-mode acceleration of matter waves in circular waveguides (7 pages)	023609
O. Dutta, M. Jääskeläinen, and P. Meystre	
Evolution of additional (hidden) quantum variables in the interference of Bose-Einstein condensates (11 pages)	023610
W. J. Mullin, R. Krotkov, and F. Laloë	
Cyclic phase in $F=2$ spinor condensate: Long-range order, kinks, and roughening transition (6 pages)	023611
W. V. Pogosov and K. Machida	
Asymmetric double-well potential for single-atom interferometry (9 pages)	023612
A. I. Sidorov, B. J. Dalton, S. M. Whitlock, and F. Scharnberg	
Superfluidity without symmetry breaking: The time-dependent Hartree-Fock approximation for Bose- condensed condensates (14 pages)	023613
C.-H. Zhang and H. A. Fertig	
Defect modes of a Bose-Einstein condensate in an optical lattice with a localized impurity (14 pages)	023614
Valeriy A. Brazhnyi, Vladimir V. Konotop, and Víctor M. Pérez-García	
Atom interferometer as a selective sensor of rotation or gravity (17 pages)	023615
B. Dubetsky and M. A. Kasevich	
Bose-Einstein condensates in rf-dressed adiabatic potentials (4 pages)	023616
M. White, H. Gao, M. Pasienski, and B. DeMarco	
Ring trap for ultracold atoms (10 pages)	023617
Olivier Morizot, Yves Colombe, Vincent Lorent, Hélène Perrin, and Barry M. Garraway	
Classification of zero-energy resonances by dissociation of Feshbach molecules (10 pages)	023618
Thomas M. Hanna, Krzysztof Góral, Emilia Witkowska, and Thorsten Köhler	
Optimal conversion of Bose-Einstein-condensed atoms into molecules via a Feshbach resonance (7 pages)	023619
Jaeyoon Jeong, Chris P. Search, and Ivana Djuric	
Theoretical study of a cold-atom beam splitter (9 pages)	023620
Naceur Gaaloul, Annick Suzor-Weiner, Laurence Pruvost, Mourad Telmini, and Eric Charron	
Microscopic structure of a quantized vortex core in atomic Fermi gases (5 pages)	023621
M. Machida, Y. Ohashi, and T. Koyama	
Thermal fluctuations of vortex clusters in quasi-two-dimensional Bose-Einstein condensates (8 pages)	023622
W. V. Pogosov and K. Machida	
Dispersive and classical shock waves in Bose-Einstein condensates and gas dynamics (24 pages)	023623
M. A. Hoefer, M. J. Ablowitz, I. Coddington, E. A. Cornell, P. Engels, and V. Schweikhard	
Effect of thermal fluctuations on spin degrees of freedom in spinor Bose-Einstein condensates (5 pages)	023624
W. V. Pogosov and K. Machida	

Quantum optics, physics of lasers, nonlinear optics

Mechanical response of the quantum vacuum to dynamic deformations of a cavity (14 pages)	023801
Jalal Sarabadani and MirFaez Miri	
Spatial distinguishability of photons produced by spontaneous parametric down-conversion with a focused pump (7 pages)	023802
Ryan S. Bennink, Yun Liu, D. Duncan Earl, and Warren P. Grice	
Local-field correction to the spontaneous decay rate of atoms embedded in bodies of finite size (11 pages) . . .	023803
Ho Trung Dung, Stefan Yoshi Buhmann, and Dirk-Gunnar Welsch	
Experimental investigation of the parameter space for optical-field-ionization cluster-jet x-ray lasers (7 pages)	023804
M.-C. Chou, P.-H. Lin, T.-S. Hung, J.-Y. Lin, J. Wang, and S.-Y. Chen	
Sagnac interferometry in a slow-light medium (4 pages)	023805
Graham T. Purves, Charles S. Adams, and Ifan G. Hughes	
Temporal Young's interference experiment by attosecond double and triple soft-x-ray pulses (4 pages)	023806
Kenichi L. Ishikawa	
Quantum electrodynamics of accelerated atoms in free space and in cavities (13 pages)	023807
Alexey Belyanin, Vitaly V. Kocharovsky, Federico Capasso, Edward Fry, M. Suhail Zubairy, and Marlan O. Scully	
Transverse effects in paired-photon generation via an electromagnetically induced transparency medium. I. Perturbation theory (7 pages)	023808
Jianming Wen and Morton H. Rubin	
Transverse effects in paired-photon generation via an electromagnetically induced transparency medium. II. Beyond perturbation theory (9 pages)	023809
Jianming Wen and Morton H. Rubin	
Time-modulated type-II optical parametric oscillator: Quantum dynamics and strong Einstein-Podolsky-Rosen entanglement (12 pages)	023810
H. H. Adamyan and G. Yu. Kryuchkyan	
Ellipticity dependence of optical harmonic generation in C ₆₀ (4 pages)	023811
G. P. Zhang and Thomas F. George	
Identity synchronization in diode lasers with unidirectional feedback and injection of rotated optical fields (8 pages)	023812
David W. Sukow, Athanasios Gavrielides, Taylor McLachlan, Guinevere Burner, Jake Amonette, and John Miller	
Characterization of a radiation-pressure-driven micromechanical oscillator (15 pages)	023813
Mani Hossein-Zadeh, Hossein Rokhsari, Ali Hajimiri, and Kerry J. Vahala	
Coherent control of collective spontaneous emission in an extended atomic ensemble and quantum storage (10 pages)	023814
Alexey Kalachev and Stefan Kröll	
Quantum criticality in a generalized Dicke model (5 pages)	023815
Yong Li, Z. D. Wang, and C. P. Sun	
Intensity correlations and entanglement by frequency doubling in a two-port resonator (11 pages)	023816
O.-K. Lim and M. Saffman	

CONTENTS - *Continued*

PHYSICAL REVIEW A

THIRD SERIES, VOLUME 74, NUMBER 2

AUGUST 2006

Conditional homodyne detection of light with squeezed quadrature fluctuations (<i>7 pages</i>)	023817
Justin Vines, Reeta Vyas, and Surendra Singh	
Optical self-organization and cavity solitons in optically pumped semiconductor microresonators (<i>8 pages</i>)	023818
Y. Menesguen, S. Barbay, X. Hachair, L. Leroy, I. Sagnes, and R. Kuszelewicz	
Generation of coherent terahertz pulses in ruby at room temperature (<i>10 pages</i>)	023819
Elena Kuznetsova, Yuri Rostovtsev, Nikolai G. Kalugin, Roman Kolesov, Olga Kocharovskaya, and Marlan O. Scully	

BRIEF REPORTS

Fundamental concepts

Wigner-Araki-Yanase theorem on distinguishability (<i>3 pages</i>)	024101
Takayuki Miyadera and Hideki Imai	
Role of the Bell singlet state in the suppression of disentanglement (<i>4 pages</i>)	024102
Ru-Fen Liu and Chia-Chu Chen	

Quantum information

Fractional revivals and quantum entanglement via coupled angular momenta (<i>4 pages</i>)	024301
W. H. Chan and C. K. Law	
High-fidelity transmission of quantum polarization states through birefringent optical fibers (<i>3 pages</i>)	024302
Takeshi Ozeki	
Preparation of cluster states and W states with superconducting quantum-interference-device qubits in cavity QED (<i>4 pages</i>)	024303
X. L. Zhang, K. L. Gao, and M. Feng	
Dark periods and revivals of entanglement in a two-qubit system (<i>4 pages</i>)	024304
Z. Ficek and R. Tanaś	

Atomic and molecular collisions and interactions

Electron capture in collisions of N^{2+} and O^{2+} ions with $H(1s)$ at low impact energies (<i>4 pages</i>)	024701
P. Barragán, L. F. Errea, L. Méndez, I. Rabadán, and A. Riera	

Clusters (including fullerenes)

Structure of small clusters of parahydrogen molecules (<i>4 pages</i>)	025201
Rafael Guardiola and Jesús Navarro	

Atomic and molecular processes in external fields

Coherent control of optically induced birefringence in azoaromatic molecules (<i>4 pages</i>)	025401
C. R. Mendonça, U. M. Neves, I. Guedes, S. C. Zilio, and L. Misoguti	
Angular distributions of multiphoton detachment of H^- in various infrared laser fields (<i>4 pages</i>)	025402
Lihua Bai, Jingtao Zhang, Xiaoming Zhang, and Zhizhan Xu	

(Continued)

Matter waves

- Resonance reactions and enhancement of weak interactions in collisions of cold molecules (*4 pages*) 025601
 V. V. Flambaum and J. S. M. Ginges

Quantum optics, physics of lasers, nonlinear optics

- Deterministic generation of a pure continuous-variable entangled state for two ions trapped in a cavity (*4 pages*) 025801
 Gao-xiang Li, Hua-tang Tan, Shao-ping Wu, and Guang-ming Huang

COMMENTS

- Comment on “Single-particle entanglement” (*2 pages*) 026301
 Aurélien Drezet
- Reply to “Comment on ‘Single-particle entanglement’ ” (*3 pages*) 026302
 S. J. van Enk
- Comment on “Stronger subadditivity of entropy” (*2 pages*) 026303
 Mary Beth Ruskai
- Comment on “Photoionization of helium atoms irradiated with intense vacuum ultraviolet free-electron laser light. Part II. Theoretical modeling of multiphoton and single-photon processes” (*2 pages*) 027401
 Alfred Maquet, Bernard Piraux, Armin Scrinzi, and Richard Taïeb
- Reply to “Comment on ‘Photoionization of helium atoms irradiated with intense vacuum ultraviolet free-electron laser light. Part II. Theoretical modeling of multiphoton and single-photon processes’ ” (*2 pages*) 027402
 A. R. B. de Castro, T. Laarmann, J. Schulz, H. Wabnitz, and T. Möller
- Comment on “Approximation for a Coulomb-Volkov solution in strong fields” (*2 pages*) 027403
 A. B. Voitkiv
- Comment on “Teleportation of entangled states without Bell-state measurement” (*1 page*) 027801
 F. De Zela

ERRATA

- Erratum: Differentiation of density functionals that conserves the normalization of the density [Phys. Rev. A **63**, 022506 (2001)] (*1 page*) 029901(E)
 Tamás Gál
- Erratum: Entanglement and dephasing of quantum dissipative systems [Phys. Rev. A **73**, 042110 (2006)] (*1 page*) 029902(E)
 T. Stauber and F. Guinea
- Publisher’s Note: Bright solitons in Bose-Fermi mixtures [Phys. Rev. A **73**, 053602 (2006)] (*1 page*) 029903(E)
 Tomasz Karpiuk, Mirosław Brewczyk, and Kazimierz Rzążewski
- Publisher’s Note: Evolution of additional (hidden) quantum variables in the interference of Bose-Einstein condensates [Phys. Rev. A **74**, 023610 (2006)] (*1 page*) 029904(E)
 W. J. Mullin, R. Krotkov, and F. Laloë
- Erratum: State estimation on correlated copies [Phys. Rev. A **71**, 062321 (2005)] (*2 pages*) 029905(E)
 Rafał Demkowicz-Dobrzański