

CONTENTS - *Continued*

PHYSICAL REVIEW A

THIRD SERIES, VOLUME 77, NUMBER 6

JUNE 2008

Atomic and molecular processes in external fields, including interactions with strong fields and short pulses

- Momentum distributions of electrons ejected during ultrashort laser interactions with multielectron atoms described using the *R*-matrix basis sets (*4 pages*) 065401
H. W. van der Hart, M. A. Lysaght, and P. G. Burke
- Enhanced atom transfer in a double magneto-optical trap setup (*4 pages*) 065402
S. R. Mishra, S. P. Ram, S. K. Tiwari, and S. C. Mehendale
- Angularly resolved electron spectra of H^- by few-cycle laser pulses (*4 pages*) 065403
Liang-You Peng, Qihuang Gong, and Anthony F. Starace

Matter waves

- Coherent atom-tetramer conversion: Bright-state versus dark-state schemes (*4 pages*) 065601
H. Jing and Y. Jiang

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

- Theoretical method for the generation of a dark two-mode squeezed state of a trapped ion (*4 pages*) 065801
T. Werlang and C. J. Villas-Boas

COMMENTS

- Comment on “Universal quantum circuit for two-qubit transformations with three controlled-NOT gates” and “Recognizing small-circuit structure in two-qubit operators” (*2 pages*) 066301
Mark W. Coffey, Ron Deiotte, and Torey Semi
- Comment on “Photodetachment in a strong laser field: An experimental test of Keldysh-like theories” (*2 pages*) 067401
H. R. Reiss
- Reply to “Comment on ‘Photodetachment in a strong laser field: An experimental test of Keldysh-like theories’ ” (*2 pages*) 067402
Boris Bergues, Zunaira Ansari, Dag Hanstorp, and Igor Yu. Kiyan

ERRATA

- Publisher’s Note: Nonperturbative *k*-body to two-body commuting conversion Hamiltonians and embedding problem instances into Ising spins [Phys. Rev. A **77**, 052331 (2008)] (*1 page*) 069901(E)
J. D. Biamonte
- Publisher’s Note: Ultracold bosons in disordered superlattices: Mott insulators induced by tunneling [Phys. Rev. A **77**, 043618 (2008)] (*1 page*) 069902(E)
D. Muth, A. Mering, and M. Fleischhauer
- Publisher’s Note: Bosons in one-dimensional incommensurate superlattices [Phys. Rev. A **77**, 063605 (2008)] (*1 page*) 069903(E)
Tommaso Roscilde
- Publisher’s Note: Enhanced atom transfer in a double magneto-optical trap setup [Phys. Rev. A **77**, 065402 (2008)] (*1 page*) 069904(E)
S. R. Mishra, S. P. Ram, S. K. Tiwari, and S. C. Mehendale

CONTENTS - *Continued*

PHYSICAL REVIEW A

THIRD SERIES, VOLUME 77, NUMBER 6

JUNE 2008

Spontaneous emission spectrum of a two-level atom in a very-high- Q cavity (9 pages)	063833
Alexia Auffèves, Benjamin Besga, Jean-Michel Gérard, and Jean-Philippe Poizat	
Mobility of strongly nonlocal solitons in optical lattices (5 pages)	063834
Zhiping Dai, Yuqing Wang, and Qi Guo	
Monte Carlo simulations of pulse propagation in massive multichannel optical fiber communication systems (10 pages)	063835
Yejin Chung and Avner Peleg	
Nanowire waveguide made from extremely anisotropic metamaterials (11 pages)	063836
Y. J. Huang, W. T. Lu, and S. Sridhar	
Robust control of quantized motional states of a chain of trapped ions by collective adiabatic passage (10 pages)	063837
I. E. Linington, P. A. Ivanov, N. V. Vitanov, and M. B. Plenio	
Stability of extended structures stabilized by light as governed by the competition of two length scales (5 pages)	063838
Zhi Hong Hang, Jack Ng, and C. T. Chan	
Shallow defect states in two-dimensional photonic crystals (18 pages)	063839
K. B. Dossou, L. C. Botten, R. C. McPhedran, C. G. Poulton, A. A. Asatryan, and C. Martijn de Sterke	
Temporally multiplexed superposition states of continuous variables (11 pages)	063840
Masahide Sasaki, Masahiro Takeoka, and Hiroki Takahashi	

BRIEF REPORTS

Fundamental concepts

Bogoliubov's Hamiltonian as a derivative of Dirac's Hamiltonian via a braid relation (3 pages)	064101
Bao-Xing Xie, Kang Xue, and Mo-Lin Ge	
Exactly solvable coupled-channel Schrödinger equation (4 pages)	064102
L. Gr. Ixaru	

Quantum information

Quantum SWAP gate in an optical cavity with an atomic cloud (4 pages)	064301
Gong-Wei Lin, Xu-Bo Zou, Ming-Yong Ye, Xiu-Min Lin, and Guang-Can Guo	
Optimal entanglement formulas for entanglement-assisted quantum coding (4 pages)	064302
Mark M. Wilde and Todd A. Brun	

Atomic and molecular collisions and interactions

Soft fragmentation of carbon monoxide by slow highly charged ions (4 pages)	064701
E. Wells, T. Nishide, H. Tawara, R. L. Watson, K. D. Carnes, and I. Ben-Itzhak	
Low-energy charge transfer for collisions of Si^{3+} with atomic hydrogen (4 pages)	064702
H. Bruhns, H. Kreckel, D. W. Savin, D. G. Seely, and C. C. Havener	
Theoretical rate of dissociative recombination of HCO^+ and DCO^+ ions (4 pages)	064703
Nicolas Douguet, Viatcheslav Kokkoouline, and Chris H. Greene	

(Continued)

CONTENTS - Continued

PHYSICAL REVIEW A

THIRD SERIES, VOLUME 77, NUMBER 6

JUNE 2008

Chirality quantum phase transition in the Dirac oscillator (13 pages)	063815
A. Bermudez, M. A. Martin-Delgado, and A. Luis	
Cone emission induced by femtosecond excitation in rubidium vapor (6 pages)	063816
H. Skenderović, T. Ban, N. Vujičić, D. Aumiler, S. Vdović, and G. Pichler	
Single-photon side bands (7 pages)	063817
T. C. Ralph, E. H. Huntington, and T. Symul	
Time-resolved measurements of the angular distribution of the Ni-like Pd soft-x-ray laser emission (5 pages)	063818
C. Imesch, F. Staub, and J. E. Balmer	
Photon statistics for a two-level system interacting with a sequence of two laser pulses (15 pages)	063819
F. Shikerman, Y. He, and E. Barkai	
Dynamics of the Bloch vector in the thermal Jaynes-Cummings model (10 pages)	063820
Hiroo Azuma	
Solitary-wave solutions for few-cycle optical pulses (7 pages)	063821
Sh. Amiranashvili, A. G. Vladimirov, and U. Bandelow	
Control of coherent population transfer via spontaneous decay-induced coherence (6 pages)	063822
Xihua Yang and Shiyao Zhu	
Dark-state polaritons for multicomponent and stationary light fields (6 pages)	063823
F. E. Zimmer, J. Otterbach, R. G. Unanyan, B. W. Shore, and M. Fleischhauer	
Nonlocal lattice solitons in thermal media (6 pages)	063824
Nikolaos K. Efremidis	
Effect of vacuum-induced coherences on coherent population trapping of moving atoms (8 pages)	063825
Guojian Yang, Min Xie, Ze Zhang, and Kaige Wang	
Toward real maximally path-entangled N -photon-state sources (8 pages)	063826
Milena D'Angelo, Augusto Garuccio, and Vincenzo Tamma	
Slow light by coherent hole burnings (5 pages)	063827
Qiong-Yi He, Bing Zhang, Xiao-Gang Wei, Jin-Hui Wu, Shang-Qi Kuang, and Jin-Yue Gao	
Observation of spectral asymmetry in cw-pumped type-II spontaneous parametric down-conversion (4 pages)	063828
Zhi Zhao, Kent A. Meyer, William B. Whitten, Robert W. Shaw, Ryan S. Bennink, and Warren P. Grice	
Interacting multiwave mixing in a five-level atomic system (13 pages)	063829
Zhiqiang Nie, Huaibin Zheng, Peizhe Li, Yongming Yang, Yanpeng Zhang, and Min Xiao	
Virtual dielectric waveguide mode description of a high-gain free-electron laser. I. Theory (8 pages)	063830
Erik Hemsing, Avraham Gover, and James Rosenzweig	
Virtual dielectric waveguide mode description of a high-gain free-electron laser. II. Modeling and numerical simulations (8 pages)	063831
Erik Hemsing, Avraham Gover, and James Rosenzweig	
Fourier-transform spectroscopy combined with a 5-fs broadband pulse for multispectral nonlinear microscopy (13 pages)	063832
Keisuke Isobe, Akira Suda, Masahiro Tanaka, Fumihiko Kannari, Hiroyuki Kawano, Hideaki Mizuno, Atsushi Miyawaki, and Katsumi Midorikawa	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW A

THIRD SERIES, VOLUME 77, NUMBER 6

JUNE 2008

Longitudinal character of atom-chip-based rf-dressed potentials (9 pages)	063623
J. J. P. van Es, S. Whitlock, T. Fernholz, A. H. van Amerongen, and N. J. van Druten	
Matter-wave squeezing and the generation of SU(1,1) and SU(2) coherent states via Feshbach resonances (9 pages)	063624
I. Tikhonenkov, E. Pazy, Y. B. Band, and A. Vardi	
Transition to quantum turbulence in a Bose-Einstein condensate through the bending-wave instability of a single-vortex ring (4 pages)	063625
T.-L. Horng, C.-H. Hsueh, and S.-C. Gou	
Quantum optics, physics of lasers, nonlinear optics, classical optics	
Delayed polarization dynamics in Nd ³⁺ -doped yttrium-aluminum-garnet lasers (11 pages)	063801
Guy Verschaffelt, Guy Van der Sande, Jan Danckaert, Bernard Ségard, Pierre Glorieux, and Thomas Erneux	
Stimulated rotational Raman scattering by a polarization-modulated femtosecond pulse (7 pages)	063802
Yuichiro Kida, Shin-ichi Zaitsu, and Totaro Imasaka	
Noise effects in intrinsic laser polarization switching (4 pages)	063803
K. Al Naimee, I. Leyva, I. P. Mariño, R. Meucci, and F. T. Arecchi	
Spatiotemporal vortices in optical fiber bundles (11 pages)	063804
Hervé Leblond, Boris A. Malomed, and Dumitru Mihalache	
Effects of chirped laser pulses on nonclassical correlations and entanglement of photon pairs (6 pages)	063805
C. H. Raymond Ooi	
Nonlinear localization of light in disordered optical fiber arrays (10 pages)	063806
Gowri Srinivasan, Alejandro Aceves, and Daniel M. Tartakovsky	
Subnatural linewidth for probe absorption in an electromagnetically-induced-transparency medium due to Doppler averaging (5 pages)	063807
S. M. Iftiquar, G. R. Karve, and Vasant Natarajan	
Photorefractive manipulation of light pulses (10 pages)	063808
B. I. Sturman, E. V. Podivilov, and M. V. Gorkunov	
Trichromatic phase dependence of squeezing in resonance fluorescence (6 pages)	063809
Xiang-ming Hu and Xue-hua Zhang	
Vortex solitons in an off-resonant Raman medium (8 pages)	063810
A. V. Gorbach, D. V. Skryabin, and C. N. Harvey	
Atomic spin squeezing in an optical cavity (8 pages)	063811
Anne E. B. Nielsen and Klaus Mølmer	
Stimulated thermal scattering induced by two-photon absorption and experimental observation of genuine stimulated Brillouin scattering in the near-ultraviolet region (14 pages)	063812
V. B. Karpov and V. V. Korobkin	
Intrinsic metrological resolution as a distance measure and nonclassical light (8 pages)	063813
Ángel Rivas and Alfredo Luis	
Alternate oscillations in quasistadium laser diodes (5 pages)	063814
Muhan Choi, Takehiro Fukushima, and Takahisa Harayama	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW A

THIRD SERIES, VOLUME 77, NUMBER 6

JUNE 2008

Bosons in one-dimensional incommensurate superlattices (<i>21 pages</i>)	063605
Tommaso Roscilde	
Mapping of Coulomb gases and sine-Gordon models to statistics of random surfaces (<i>5 pages</i>)	063606
Adilet Imambekov, Vladimir Gritsev, and Eugene Demler	
Self-trapping of Bose-Einstein condensates expanding into shallow optical lattices (<i>7 pages</i>)	063607
Matthias Rosenkranz, Dieter Jaksch, Fong Yin Lim, and Weizhu Bao	
Goos-Hänchen-like shifts in atom optics (<i>7 pages</i>)	063608
Jianhua Huang, Zhenglu Duan, Hong Y. Ling, and Weiping Zhang	
Reentrant quantum phase transition in double-well optical lattices (<i>5 pages</i>)	063609
Ippei Danshita, Carlos A. R. Sá de Melo, and Charles W. Clark	
Barrier transmission for the one-dimensional nonlinear Schrödinger equation: Resonances and transmission profiles (<i>11 pages</i>)	063610
K. Rapedius and H. J. Korsch	
Dipole oscillations in Bose-Fermi mixtures in the time-dependent Gross-Pitaevskii and Vlasov equations (<i>13 pages</i>)	063611
Tomoyuki Maruyama and George F. Bertsch	
Molecular formations in ultracold mixtures of interacting and noninteracting atomic gases (<i>16 pages</i>)	063612
T. Nishimura, A. Matsumoto, and H. Yabu	
BCS-BEC crossover of a quasi-two-dimensional Fermi gas: The significance of dressed molecules (<i>5 pages</i>)	063613
Wei Zhang (張威), G.-D. Lin (林俊達), and L.-M. Duan (段路明)	
Superradiant Raman scattering in an ultracold Bose gas at finite temperature (<i>7 pages</i>)	063614
H. Uys and P. Meystre	
Bose-Einstein condensate inside a Bragg-reflecting atom cavity (<i>5 pages</i>)	063615
R. Zhang, R. E. Sapiro, N. V. Morrow, R. R. Mhaskar, and G. Raithel	
BCS-BEC crossover and effects of density fluctuations in a two-component Fermi gas described by the three-dimensional attractive Hubbard model (<i>9 pages</i>)	063616
H. Tamaki, Y. Ohashi, and K. Miyake	
Magnetization profile and core-level spectroscopy in a multiply quantized vortex of imbalanced Fermi superfluids (<i>11 pages</i>)	063617
K. M. Suzuki, T. Mizushima, M. Ichioka, and K. Machida	
Approaching the Heisenberg limit in an atom laser (<i>4 pages</i>)	063618
M. Jeppesen, J. Dugué, G. R. Dennis, M. T. Johnsson, C. Figl, N. P. Robins, and J. D. Close	
Density-density correlation of incoherent atoms with angular momentum released from an optical lattice (<i>7 pages</i>)	063619
Shujuan Liu, Hongwei Xiong, and Baolong Lu	
Twin stimulated amplification of light and matter waves in an atom-photon pair laser (<i>13 pages</i>)	063620
Thomas Salzburger and Helmut Ritsch	
Optical properties of atomic Mott insulators: From slow light to dynamical Casimir effects (<i>16 pages</i>)	063621
Iacopo Carusotto, Mauro Antezza, Francesco Bariani, Simone De Liberato, and Cristiano Ciuti	
Long-wavelength spin dynamics of ferromagnetic condensates (<i>4 pages</i>)	063622
Austen Lamacraft	

(Continued)

CONTENTS - Continued

PHYSICAL REVIEW A

THIRD SERIES, VOLUME 77, NUMBER 6

JUNE 2008

Protecting coherence in optimal control theory: State-dependent constraint approach (<i>11 pages</i>)	063412
José P. Palao, Ronnie Kosloff, and Christiane P. Koch	
Low-energy excitations of a boson pair in a double-well trap (<i>14 pages</i>)	063413
D. S. Murphy and J. F. McCann	
Nonlinear radiation imprisonment in magneto-optical vapor traps (<i>11 pages</i>)	063414
N. N. Bezuglov, A. F. Molisch, F. Fuso, M. Allegrini, and A. Ekers	
Enhanced excitation and ionization of H_2^+ by a single- and two-color intense laser pulse (<i>10 pages</i>)	063415
Xue-Bin Bian, Liang-You Peng, and Ting-Yun Shi	
Electron stripping and reattachment at atomic centers using attosecond half-cycle pulses (<i>8 pages</i>)	063416
Agapi Emmanouilidou and T. Uzer	
Faraday spectroscopy of atoms confined in a dark optical trap (<i>6 pages</i>)	063417
Matthew L. Terraciano, Mark Bashkansky, and Fredrik K. Fatemi	
Landau-Dykhne approach for relativistic electron momentum and angular distributions for the ionization of multicharged atomic ions by superintense laser fields (<i>6 pages</i>)	063418
V. P. Krainov and A. V. Sofronov	
Enhancement of dielectronic recombination in combined electric and magnetic fields (<i>9 pages</i>)	063419
E. S. Shuman, W. Yang, and T. F. Gallagher	
Optimal control of a three-level quantum system by laser fields plus von Neumann measurements (<i>10 pages</i>)	063420
D. Sugny and C. Kontz	
Zeeman effect of the hyperfine-structure levels in lithiumlike ions (<i>14 pages</i>)	063421
D. L. Moskovkin, V. M. Shabaev, and W. Quint	
Intensity dependence in the dissociation branching ratio of ND^+ using intense femtosecond laser pulses (<i>7 pages</i>)	063422
J. McKenna, A. M. Sayler, B. Gaire, Nora G. Johnson, E. Parke, K. D. Carnes, B. D. Esry, and I. Ben-Itzhak	
Optimizing the photon flux of double optical gated high-order harmonic spectra (<i>5 pages</i>)	063423
Hiroki Mashiko, Steve Gilbertson, Chengquan Li, Eric Moon, and Zenghu Chang	
Optomechanical coupling in a one-dimensional optical lattice (<i>25 pages</i>)	063424
J. K. Asbóth, H. Ritsch, and P. Domokos	
Quantum multiobservable control (<i>11 pages</i>)	063425
Raj Chakrabarti, Rebing Wu, and Herschel Rabitz	
Matter waves	
Ground-state properties of a Tonks-Girardeau gas in a split trap (<i>7 pages</i>)	063601
J. Goold and Th. Busch	
Incompressible liquid, stripes, and bubbles in rapidly rotating Bose atoms at $\nu=1$ (<i>10 pages</i>)	063602
Hidetsugu Seki and Kazusumi Ino	
Pair condensation of bosonic atoms induced by optical lattices (<i>7 pages</i>)	063603
María Eckholt and Juan José García-Ripoll	
Atomic current in optical lattices: Reexamination of the Esaki-Tsu equation (<i>5 pages</i>)	063604
Andrey R. Kolovsky	

(Continued)

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

- Surface erosion and modification by highly charged ions (*10 pages*) 062901
 Z. Insepov, M. Terasawa, and K. Takayama

PART B**Clusters (including fullerenes)**

- Harmonic emission from cluster nanoplasmas subject to intense short laser pulses (*11 pages*) 063201
 S. V. Popruzhenko, M. Kundu, D. F. Zaretsky, and D. Bauer
- Evaporative attachment of slow electrons to alkali-metal nanoclusters (*4 pages*) 063202
 Roman Rabinovitch, Chunlei Xia, and Vitaly V. Kresin

Atomic and molecular processes in external fields, including interactions with strong fields and short pulses

- Time-series analysis of vibrational nuclear wave-packet dynamics in D_2^+ (*12 pages*) 063401
 Uwe Thumm, Thomas Niederhausen, and Bernold Feuerstein
- Instabilities of molecule motion in a linear ac trap (*8 pages*) 063402
 Peter Lützow, Melanie Schnell, and Gerard Meijer
- Single-active-electron approximation for describing molecules in ultrashort laser pulses and its application to molecular hydrogen (*17 pages*) 063403
 Manohar Awasthi, Yulian V. Vanne, Alejandro Saenz, Alberto Castro, and Piero Decleva
- All-optical control and direct detection of ultrafast spin polarization in a multi-valence-electron system (*4 pages*) 063404
 Takashi Nakajima, Yukari Matsuo, and Tohru Kobayashi
- Ellipticity effects and the contributions of long orbits in nonsequential double ionization of atoms (*10 pages*) 063405
 N. I. Shvetsov-Shilovski, S. P. Goreslavski, S. V. Popruzhenko, and W. Becker
- Many-mode Floquet theoretical approach for coherent control of multiphoton dynamics driven by intense frequency-comb laser fields (*8 pages*) 063406
 Sang-Kil Son (손상길) and Shih-I Chu (朱時宜)
- Suppression effect in the nonsequential double ionization of molecules by an intense laser field (*7 pages*) 063407
 X. Y. Jia, W. D. Li, J. Fan, J. Liu, and J. Chen
- Impact of the Meissner effect on magnetic microtraps for neutral atoms near superconducting thin films (*9 pages*) 063408
 D. Cano, B. Kasch, H. Hattermann, D. Koelle, R. Kleiner, C. Zimmermann, and J. Fortágh
- Spectra of molecular gases trapped in deep optical lattices (*5 pages*) 063409
 P. F. Barker, S. M. Purcell, and M. N. Shneider
- Vibrational spectroscopy of H_2^+ : Hyperfine structure of two-photon transitions (*10 pages*) 063410
 Jean-Philippe Karr, Franck Bielsa, Albane Douillet, Jofre Pedregosa Gutierrez, Vladimir I. Korobov, and Laurent Hilico
- Fine structures of the harmonic and hyper-Raman spectrum of the hydrogen atom in an intense high-frequency laser pulse (*6 pages*) 063411
 Zhaoyan Zhou and Jianmin Yuan

Atomic and molecular collisions and interactions

Relativistic B -spline R -matrix method for electron collisions with atoms and ions: Application to low-energy electron scattering from Cs (7 pages)	062701
Oleg Zatsarinny and Klaus Bartschat	
Elementary statistical models for collision-sequence interference effects (10 pages)	062702
John Courtenay Lewis	
Emission characteristics of three final continuum electrons produced in low-energy double ionization of helium (5 pages)	062703
S. P. Cao, X. Ma, A. Dorn, M. Dürre, and J. Ullrich	
Electron-impact excitation and ionization cross sections for the Si, Cl, and Ar isonuclear sequences (6 pages)	062704
J. Colgan, H. L. Zhang, and C. J. Fontes	
Hartree-Fock studies of the triple differential cross section for electron-impact ionization of the hydrogen atom (6 pages)	062705
Hari P. Saha	
Double ionization of helium by ion impact analyzed using four-body Dalitz plots (12 pages)	062706
M. F. Ciappina, M. Schulz, T. Kirchner, D. Fischer, R. Moshhammer, and J. Ullrich	
Electron-impact ionization of atoms in high-temperature dense plasmas (4 pages)	062707
M. S. Pindzola, S. D. Loch, J. Colgan, and C. J. Fontes	
Electron-impact excitation of the $B\ ^1\Sigma_u^+$ and $C\ ^1\Pi_u$ electronic states of H_2 (7 pages)	062708
H. Kato, H. Kawahara, M. Hoshino, H. Tanaka, L. Campbell, and M. J. Brunger	
Branching ratios of x-ray photons from dielectronic recombination processes in H-like titanium ions (9 pages)	062709
B. E. O'Rourke, F. J. Currell, H. Kuramoto, S. Ohtani, H. Watanabe, Y. M. Li, T. Tawara, and X. M. Tong	
Distorted-wave ionization and x-ray production cross sections of the K shell of Cu and the L shells of Ag, In, and Sn by positron impact (8 pages)	062710
Michael Dingfelder, Silvina Segui, and José M. Fernández-Varea	
Electron-impact excitation of the $(5d^{10}6s)^2S_{1/2} \rightarrow (5d^{10}6p)^2P_{1/2,3/2}$ resonance transitions in gold atoms (8 pages)	062711
M. Maslov, M. J. Brunger, P. J. O. Teubner, O. Zatsarinny, K. Bartschat, D. Fursa, I. Bray, and R. P. McEachran	
Interplay of initial and final states for $(e, 3e)$ and $(\gamma, 2e)$ processes on helium (12 pages)	062712
L. U. Ancarani, G. Gasaneo, F. D. Colavecchia, and C. Dal Cappello	
Experimental and theoretical study of the elastic-electron-indium-atom scattering in the intermediate energy range (11 pages)	062713
M. S. Rabasović, V. I. Kelemen, S. D. Tošić, D. Šević, M. M. Dovhanych, V. Pejčev, D. M. Filipović, E. Yu. Remeta, and B. P. Marinković	
Completeness relation in the R -matrix theory of scattering (6 pages)	062714
Kazuo Takayanagi	

Atomic and molecular structure and dynamics

Lamb shift due to surface plasmon polariton modes (6 pages)	062501
Qingqing Sun, M. Al-Amri, Ali Kamli, and M. Suhail Zubairy	
Measurement of the $3s3p\ ^3P_1$ lifetime in magnesium using a magneto-optical trap (4 pages)	062502
P. L. Hansen, K. T. Therkildsen, N. Malossi, B. B. Jensen, E. D. van Ooijen, A. Bruschi, J. H. Müller, J. Hald, and J. W. Thomsen	
Time-reversal symmetry in general coupled cluster theory (9 pages)	062503
Timo Fleig	
Inner-shell $2p$ photoionization and Auger decay of atomic silicon (9 pages)	062504
K. Jänkälä, S. Urpeläinen, M. Huttula, S. Fritzsche, S. Heinäsmäki, S. Aksela, and H. Aksela	
Measurement of the cesium $7d\ ^2D_{3/2}$ hyperfine coupling constants in a thermal beam using two-photon fluorescence spectroscopy (5 pages)	062505
A. Kortyna, V. Fiore, and J. Farrar	
Angular momentum dependence of photoionization cross section from the excited states of lithium isotopes (5 pages)	062506
M. Saleem, Shahid Hussain, and M. A. Baig	
Vibrational spectroscopy of H_2^+ : Precise evaluation of the Zeeman effect (9 pages)	062507
Jean-Philippe Karr, Vladimir I. Korobov, and Laurent Hilico	
State-selective detection of the PbF molecule by doubly resonant multiphoton ionization (5 pages)	062508
P. Sivakumar, C. P. McRaven, Dustin Combs, N. E. Shafer-Ray, and Victor Ezhov	
Three lowest S states of $^9Be^+$ calculated with including nuclear motion and relativistic and QED corrections (7 pages)	062509
Monika Stanke, Jacek Komasa, Dariusz Kędziera, Sergiy Bubín, and Ludwik Adamowicz	
Two-loop QED corrections with closed fermion loops (12 pages)	062510
V. A. Yerokhin, P. Indelicato, and V. M. Shabaev	
Real-time resolution of the causality paradox of time-dependent density-functional theory (9 pages)	062511
Giovanni Vignale	
Photoionization spectroscopy of even-parity autoionizing Rydberg states of argon: Experimental and theoretical investigation of Fano profiles and resonance widths (11 pages)	062512
J. D. Wright, T. J. Morgan, Leping Li, Quanli Gu, J. L. Knee, I. D. Petrov, V. L. Sukhorukov, and H. Hotop	
Coincidence method for measuring the mass of neutral fragments emitted in a delayed fragmentation process from a singly charged molecule: Fragmentation pathway of adenine (7 pages)	062513
S. Martin, R. Brédy, A. R. Allouche, J. Bernard, A. Salmoun, B. Li, and L. Chen	
Direct calculation of interaction-induced molecular properties: An application to the relativistic mass-velocity and Darwin terms in the interaction energy of hydrogen atoms (12 pages)	062514
Konrad Piszczatowski, Grzegorz Łach, and Bogumił Jeziorski	
Reexamination of the LeRoy-Bernstein formula for weakly bound molecules (8 pages)	062515
Haikel Jelassi, Bruno Viaris de Lesegno, and Laurence Pruvost	
Relativistic coupled-cluster studies of dipole polarizabilities in closed-shell atoms (5 pages)	062516
B. K. Sahoo and B. P. Das	

CONTENTS - *Continued*

PHYSICAL REVIEW A

THIRD SERIES, VOLUME 77, NUMBER 6

JUNE 2008

Nonlocal entanglement concentration scheme for partially entangled multipartite systems with nonlinear optics (7 pages)	062325
Yu-Bo Sheng, Fu-Guo Deng, and Hong-Yu Zhou	
Decoy states for quantum key distribution based on decoherence-free subspaces (6 pages)	062326
Zhen-Qiang Yin, Yi-Bo Zhao, Zheng-Wei Zhou, Zheng-Fu Han, and Guang-Can Guo	
Decoherence-free preparation of Dicke states of trapped ions by collective stimulated Raman adiabatic passage (14 pages)	062327
I. E. Linington and N. V. Vitanov	
Linear optical scheme to demonstrate genuine multipartite entanglement for single-particle W states (5 pages)	062328
Hyunchul Nha	
Perturbative gadgets at arbitrary orders (8 pages)	062329
Stephen P. Jordan and Edward Farhi	
Dynamics of entanglement in a one-dimensional Ising chain (6 pages)	062330
G. B. Furman, V. M. Meerovich, and V. L. Sokolovsky	
Limit distributions of two-dimensional quantum walks (9 pages)	062331
Kyohei Watabe, Naoki Kobayashi, Makoto Katori, and Norio Konno	
Interaction- and measurement-free quantum Zeno gates for universal computation with single-atom and single-photon qubits (13 pages)	062332
Y. P. Huang and M. G. Moore	
Entanglement and purity of one- and two-photon states (10 pages)	062333
Jun O. S. Yin and S. J. van Enk	
Experimentally accessible geometric measure for entanglement in N -qubit pure states (11 pages)	062334
Ali Saif M. Hassan and Pramod S. Joag	
Asymmetric quantum error correction via code conversion (5 pages)	062335
Ashley M. Stephens, Zachary W. E. Evans, Simon J. Devitt, and Lloyd C. L. Hollenberg	
Universal quantum computation with trapped ions in thermal motion by adiabatic passage (5 pages)	062336
Xun-Li Feng, Chunfeng Wu, C. H. Lai, and C. H. Oh	
Control-limited perfect state transfer, quantum stochastic resonance, and many-body entangling gate in imperfect qubit registers (10 pages)	062337
C. Di Franco, M. Paternostro, D. I. Tsomokos, and S. F. Huelga	
Hyperfine-interaction-induced decoherence and deterministic teleportation of electrons in a quantum-dot nanostructure (5 pages)	062338
Siqing Yu, Yechao Zhu, and Ye Yeo	
Quantum entanglement via two-qubit quantum Zeno dynamics (6 pages)	062339
Xiang-Bin Wang, J. Q. You, and Franco Nori	
Remote extraction and destruction of spread qubit information (12 pages)	062340
Yoshiko Ogata and Mio Murao	
Spin squeezing via ladder operations on an atomic coherent state (6 pages)	062341
Christopher C. Gerry and Adil Benmoussa	

(Continued)

CONTENTS - Continued

PHYSICAL REVIEW A

THIRD SERIES, VOLUME 77, NUMBER 6

JUNE 2008

Quantum beat laser as a source of entangled radiation (7 pages)	062308
Shahid Qamar, Fazal Ghafoor, Mark Hillery, and M. Suhail Zubairy	
Correlation-function Bell inequality with improved visibility for three qubits (5 pages)	062309
Chunfeng Wu, Jing-Ling Chen, L. C. Kwek, and C. H. Oh	
Distilling entanglement from random cascades with partial “which path” ambiguity (8 pages)	062310
E. A. Meirom, N. H. Lindner, Y. Berlatzky, E. Poem, N. Akopian, J. E. Avron, and D. Gershoni	
Berry’s phase under the Dzyaloshinskii-Moriya interaction (5 pages)	062311
M. K. Kwan, Zeynep Nilhan Gurkan, and L. C. Kwek	
Generation of four-partite Greenberger-Horne-Zeilinger and W states by using a high-finesse bimodal cavity (13 pages)	062312
D. Gona, S. Fritzsche, and T. Radtke	
Decoherence-free quantum information in the presence of dynamical evolution (8 pages)	062313
Peter G. Brooke, James D. Cresser, and Manas K. Patra	
Staggered magnetization and entanglement enhancement by magnetic impurities in a $S=\frac{1}{2}$ spin chain (5 pages)	062314
Tony J. Apollaro, Alessandro Cuccoli, Andrea Fubini, Francesco Plastina, and Paola Verrucchi	
Large-amplitude coherent-state superposition generated by a time-separated two-photon subtraction from a continuous-wave squeezed vacuum (9 pages)	062315
Masahiro Takeoka, Hiroki Takahashi, and Masahide Sasaki	
Demonstration of a scheme for the generation of “event-ready” entangled photon pairs from a single-photon source (4 pages)	062316
Qiang Zhang, Xiao-Hui Bao, Chao-Yang Lu, Xiao-Qi Zhou, Tao Yang, Terry Rudolph, and Jian-Wei Pan	
Reduced state uniquely defines the Groverian measure of the original pure state (6 pages)	062317
Eylee Jung, Mi-Ra Hwang, Hungsoo Kim, Min-Soo Kim, DaeKil Park, Jin-Woo Son, and Sayatnova Tamaryan	
Phase-space patterns of quantum transport on ordered and disordered networks (10 pages)	062318
Xin-Ping Xu and Feng Liu	
Bures distance as a measure of entanglement for symmetric two-mode Gaussian states (6 pages)	062319
Paulina Marian and Tudor A. Marian	
Investigation of planar Coulomb crystals for quantum simulation and computation (8 pages)	062320
I. M. Buluta, M. Kitaoka, S. Georgescu, and S. Hasegawa	
Fidelity approach to Gaussian transitions (8 pages)	062321
Yu-Chin Tzeng (曾郁欽), Hsiang-Hsuan Hung (洪祥軒), Yung-Chung Chen, and Min-Fong Yang	
Dynamics of global entanglement under decoherence (5 pages)	062322
Afshin Montakhab and Ali Asadian	
Schemes for quantum key distribution with higher-order alphabets using single-photon fractional Fourier optics (9 pages)	062323
S. P. Walborn, D. S. Lemelle, D. S. Tasca, and P. H. Souto Ribeiro	
Universal and nonuniversal contributions to block-block entanglement in many-fermion systems (6 pages)	062324
V. V. Frana and K. Capelle	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW A

THIRD SERIES, VOLUME 77, NUMBER 6

JUNE 2008

Wave-packet entanglement (7 pages)	062104
Mayer A. Landau and C. R. Stroud, Jr.	
Weak measurements with entangled probes (4 pages)	062105
David Menzies and Natalia Korolkova	
Mermin inequalities for perfect correlations (5 pages)	062106
Adán Cabello, Otfried Gühne, and David Rodríguez	
Repulsive and attractive Casimir forces in a glide-symmetric geometry (5 pages)	062107
Alejandro W. Rodriguez, J. D. Joannopoulos, and Steven G. Johnson	
Criteria for generalized macroscopic and mesoscopic quantum coherence (13 pages)	062108
E. G. Cavalcanti and M. D. Reid	
Geometry of quantum correlations (5 pages)	062109
Itamar Pitowsky	
Relevance of Bell's theorem as a signature of nonlocality: Case of classical angular momentum distributions (11 pages)	062110
A. Matzkin	
Spontaneous emission of a moving atom in vacuum (4 pages)	062111
Wei Guo	
Process positive-operator-valued measure: A mathematical framework for the description of process tomography experiments (4 pages)	062112
Mário Ziman	
Controlled decoherence in a quantum Lévy kicked rotator (15 pages)	062113
Henning Schomerus and Eric Lutz	
Adiabatic condition and quantum geometric potential (6 pages)	062114
Jian-da Wu, Mei-sheng Zhao, Jian-lan Chen, and Yong-de Zhang	
Quantum information	
Robust and efficient quantum repeaters with atomic ensembles and linear optics (7 pages)	062301
Nicolas Sangouard, Christoph Simon, Bo Zhao, Yu-Ao Chen, Hugues de Riedmatten, Jian-Wei Pan, and Nicolas Gisin	
Limiting distribution of decoherent quantum random walks (14 pages)	062302
Kai Zhang	
Origination and survival of qudit-qudit entanglement in open systems (7 pages)	062303
Jerzy Dajka and Jerzy Łuczka	
Hierarchies of geometric entanglement (15 pages)	062304
M. Blasone, F. Dell'Anno, S. De Siena, and F. Illuminati	
Entanglement propagation through spin chains in the presence of a staggered magnetic field (5 pages)	062305
R. H. Crooks and D. V. Khveshchenko	
Experimental quantum-information processing with $^{43}\text{Ca}^+$ ions (9 pages)	062306
J. Benhelm, G. Kirchmair, C. F. Roos, and R. Blatt	
Multipartite continuous-variable solution for the Byzantine agreement problem (11 pages)	062307
Rodion Neigovzen, Carles Rodó, Gerardo Adesso, and Anna Sanpera	

(Continued)