



Shrimp-shaped domain in the parameter space of an experimental dynamical system. See article 074102.

PHYSICAL REVIEW LETTERS

Contents

Articles published 7 August–13 August 2010

VOLUME 105, NUMBER 7

13 August 2010

General Physics: Statistical and Quantum Mechanics, Quantum Information, etc.

Berezinskii-Kosterlitz-Thouless Transition in Two-Dimensional Dipole Systems	070401
A. Filinov, N. V. Prokof'ev, and M. Bonitz	
Universal Behavior of Pair Correlations in a Strongly Interacting Fermi Gas	070402
E. D. Kuhnle, H. Hu, X.-J. Liu, P. Dyke, M. Mark, P. D. Drummond, P. Hannaford, and C. J. Vale	
Preparing a Mechanical Oscillator in Non-Gaussian Quantum States	070403
Farid Khalili, Stefan Danilishin, Haixing Miao, Helge Müller-Ebhardt, Huan Yang, and Yanbei Chen	
Constraints on Stable Equilibria with Fluctuation-Induced (Casimir) Forces	070404
Sahand Jamal Rahi, Mehran Kardar, and Thorsten Emig	
Proposal for Implementing Device-Independent Quantum Key Distribution Based on a Heralded Qubit Amplifier ...	070501
Nicolas Gisin, Stefano Pironio, and Nicolas Sangouard	
Localization, Anomalous Diffusion, and Slow Relaxations: A Random Distance Matrix Approach	070601
Ariel Amir, Yuval Oreg, and Yoseph Imry	
Polarized Alkali-Metal Vapor with Minute-Long Transverse Spin-Relaxation Time	070801
M. V. Balabas, T. Karaulanov, M. P. Ledbetter, and D. Budker	

Elementary Particles and Fields

String Universality in Ten Dimensions	071601
Allan Adams, Washington Taylor, and Oliver DeWolfe	
Multiple M -Wave Interaction with Fluxes	071602
Igor A. Bandos	
Bounding $W - W'$ Mixing with Spin Asymmetries at RHIC	071801
Daniël Boer and Wilco J. den Dunnen	
Polarization Transfer in the $^4\text{He}(\bar{e}, e'\bar{p})^3\text{H}$ Reaction at $Q^2 = 0.8$ and 1.3 (GeV/c) ^{2}	072001
M. Paolone <i>et al.</i> (E03-104 Collaboration)	
Midrapidity Antiproton-to-Proton Ratio in pp Collisions at $\sqrt{s} = 0.9$ and 7 TeV Measured by the ALICE Experiment	072002
K. Aamodt <i>et al.</i> (ALICE Collaboration)	
AdS Black Disk Model for Small- x Deep Inelastic Scattering	072003
Lorenzo Corralba, Miguel S. Costa, and João Penedones	

Nuclear Physics

Effect of the Tensor Force on the Charge Exchange Spin-Dipole Excitations of ^{208}Pb	072501
C. L. Bai, H. Q. Zhang, H. Sagawa, X. Z. Zhang, G. Colò, and F. R. Xu	
Anomalous Fluctuations of s -Wave Reduced Neutron Widths of $^{192,194}\text{Pt}$ Resonances	072502
P. E. Koehler, F. Bečvář, M. Krtička, J. A. Harvey, and K. H. Guber	

(Continued Inside)

Selected for a Viewpoint in *Physics*. Please visit <http://physics.aps.org/>.

By suggesting a few manuscripts each week, we hope to promote reading across fields. Please see our Announcement Phys. Rev. Lett. 98, 010001 (2007).



Regularity-Induced Separation of Intrinsic and Collective Dynamics	072503
Michal Macek, Jan Dobeš, Pavel Stránský, and Pavel Cejnar	
Atomic, Molecular, and Optical Physics	
Attosecond Streaking Enables the Measurement of Quantum Phase	073001
V.S. Yakovlev, J. Gagnon, N. Karpowicz, and F. Krausz	
Doppler Cooling a Microsphere	073002
P.F. Barker	
How Shaped Light Discriminates Nearly Identical Biochromophores	073003
Jens Petersen, Roland Mitrić, Vlasta Bonačić-Koutecký, Jean-Pierre Wolf, Jonathan Roslund, and Herschel Rabitz	
Observation of Threshold Effects in Positron Scattering from the Noble Gases	073201
A.C. Jones, P. Caradonna, C. Makochekanwa, D.S. Slaughter, R.P. McEachran, J.R. Machacek, J.P. Sullivan, and S.J. Buckman	
Universal Rates for Reactive Ultracold Polar Molecules in Reduced Dimensions	073202
Andrea Micheli, Zbigniew Idziaszek, Guido Pupillo, Mikhail A. Baranov, Peter Zoller, and Paul S. Julienne	
Electromagnetically Induced Transparency with Amplification in Superconducting Circuits	073601
Jaewoo Joo, Jérôme Bourassa, Alexandre Blais, and Barry C. Sanders	
Experimental Optimal Cloning of Four-Dimensional Quantum States of Photons	073602
E. Nagali, D. Giovannini, L. Marrucci, S. Slussarenko, E. Santamato, and F. Sciarrino	
Nonlinear Dynamics, Fluid Dynamics, Classical Optics, etc.	
Antireflection Coating Using Metamaterials and Identification of Its Mechanism	073901
Hou-Tong Chen, Jiangfeng Zhou, John F. O'Hara, Frank Chen, Abul K. Azad, and Antoinette J. Taylor	
Surface Electromagnetic Field Radiated by a Subwavelength Hole in a Metal Film	073902
A.Yu. Nikitin, F.J. García-Vidal, and L. Martín-Moreno	
Two-Dimensional Localization of Exciton Polaritons in Microcavities	073903
O.A. Egorov, A.V. Gorbach, F. Lederer, and D.V. Skryabin	
 Nonlinear Supratransmission in Multicomponent Systems	074101
P. Anghel-Vasilescu, J. Dornigac, F. Geniet, J. Leon, and M. Taki	
Real-World Existence and Origins of the Spiral Organization of Shrimp-Shaped Domains	074102
Ruedi Stoop, Philipp Benner, and Yoko Uwate	
Acoustic Transmission Enhancement through a Periodically Structured Stiff Plate without Any Opening	074301
Zhaojian He, Han Jia, Chunyin Qiu, Shasha Peng, Xuefei Mei, Feiyan Cai, Pai Peng, Manzhu Ke, and Zhengyou Liu	
Simulation of Mixing within Drops due to Surface Tension Variations	074501
François Blanchette	
Plasma and Beam Physics	
Phase-Resolved Measurements of Ion Velocity in a Radio-Frequency Sheath	075001
Brett Jacobs, Walter Gekelman, Pat Pribyl, and Michael Barnes	
Threshold Phenomena in a Throbbing Complex Plasma	075002
Maxime Mikikian, Lénaïc Couëdel, Marjorie Cavarroc, Yves Tessier, and Laïfa Boufendi	
Plasmons in Strongly Coupled Shock-Compressed Matter	075003
P. Neumayer, C. Fortmann, T. Döppner, P. Davis, R.W. Falcone, A.L. Kritcher, O.L. Landen, H.J. Lee, R.W. Lee, C. Niemann, S. Le Pape, and S.H. Glenzer	
Percolation Simulation of Laser-Guided Electrical Discharges	075004
Akira Sasaki, Yasuaki Kishimoto, Eiichi Takahashi, Susumu Kato, Takashi Fujii, and Seiji Kanazawa	
Laboratory Simulation of Arched Magnetic Flux Rope Eruptions in the Solar Atmosphere	075005
S.K. Tripathi and W. Gekelman	
Condensed Matter: Structure, etc.	
Simple Point-Ion Electrostatic Model Explains the Cation Distribution in Spinel Oxides	075501
Vladan Stevanović, Mayeul d'Avezac, and Alex Zunger	

(Continued on Preceding Page)



Selected for a Viewpoint in *Physics*. Please visit <http://physics.aps.org/>.

By suggesting a few manuscripts each week, we hope to promote reading across fields. Please see our Announcement Phys. Rev. Lett. 98, 010001 (2007).

Atomically Smooth Stress-Corrosion Cleavage of a Hydrogen-Implanted Crystal	075502
Gianpietro Moras, Lucio Colombi Ciacchi, Christian Elsässer, Peter Gumbsch, and Alessandro De Vita	
Structural Defects in Ion Chains by Quenching the External Potential: The Inhomogeneous Kibble-Zurek Mechanism	075701
A. del Campo, G. De Chiara, Giovanna Morigi, M.B. Plenio, and A. Retzker	
Insight into Action Spectroscopy for Single Molecule Motion and Reactions through Inelastic Electron Tunneling	076101
Kenta Motobayashi, Yousoo Kim, Hiromu Ueba, and Maki Kawai	
Simultaneous Segregation at Coherent and Semicoherent Heterophase Interfaces	076102
Aniruddha Biswas, Donald J. Siegel, and David N. Seidman	
Impact of Negative Line Tension on the Shape of Nanometer-Size Sessile Droplets	076103
John K. Berg, Constans M. Weber, and Hans Riegler	
Condensed Matter: Electronic Properties, etc.	
Time-Dependent Mean Field Theory for Quench Dynamics in Correlated Electron Systems	076401
Marco Schiró and Michele Fabrizio	
Spin Polarons in the Correlated Metallic Pyrochlore $\text{Cd}_2\text{Re}_2\text{O}_7$	076402
Vyacheslav G. Storchak, Jess H. Brewer, Scott L. Stubbs, Oleg E. Parfenov, Roger L. Lichti, Patrick W. Mengyan, Jian He, Isaac Bredeson, Dale Hitchcock, and David Mandrus	
Domain-Wall Depinning Assisted by Pure Spin Currents	076601
D. Ilgaz, J. Nievendick, L. Heyne, D. Backes, J. Rhensius, T.A. Moore, M.Á. Niño, A. Locatelli, T.O. Mentes, A. v. Schmidfeld, A. v. Bieren, S. Krzyk, L.J. Heyderman, and M. Kläui	
 Landau Quantization of Topological Surface States in Bi_2Se_3	076801
Peng Cheng, Canli Song, Tong Zhang, Yanyi Zhang, Yilin Wang, Jin-Feng Jia, Jing Wang, Yayu Wang, Bang-Fen Zhu, Xi Chen, Xucun Ma, Ke He, Lili Wang, Xi Dai, Zhong Fang, Xincheng Xie, Xiao-Liang Qi, Chao-Xing Liu, Shou-Cheng Zhang, and Qi-Kun Xue	
Hexagonally Deformed Fermi Surface of the 3D Topological Insulator Bi_2Se_3	076802
K. Kuroda, M. Arita, K. Miyamoto, M. Ye, J. Jiang, A. Kimura, E.E. Krasovskii, E.V. Chulkov, H. Iwasawa, T. Okuda, K. Shimada, Y. Ueda, H. Namatame, and M. Taniguchi	
Observation of Reentrant Phases Induced by Short-Range Disorder in the Lowest Landau Level of $\text{Al}_x\text{Ga}_{1-x}\text{As}/\text{Al}_{0.32}\text{Ga}_{0.68}\text{As}$ Heterostructures	076803
Wanli Li, D.R. Luhman, D.C. Tsui, L.N. Pfeiffer, and K.W. West	
Strong Rashba-Type Spin Polarization of the Photocurrent from Bulk Continuum States: Experiment and Theory for $\text{Bi}(111)$	076804
A. Kimura, E.E. Krasovskii, R. Nishimura, K. Miyamoto, T. Kadono, K. Kanomaru, E.V. Chulkov, G. Bihlmayer, K. Shimada, H. Namatame, and M. Taniguchi	
Majorana Fermions and a Topological Phase Transition in Semiconductor-Superconductor Heterostructures	077001
Roman M. Lutchyn, Jay D. Sau, and S. Das Sarma	
High-Temperature Optical Spectral Weight and Fermi-liquid Renormalization in Bi-Based Cuprate Superconductors	077002
D. Nicoletti, O. Limaj, P. Calvani, G. Rohringer, A. Toschi, G. Sangiovanni, M. Capone, K. Held, S. Ono, Yoichi Ando, and S. Lupi	
Impact on Interface Spin Polarization of Molecular Bonding to Metallic Surfaces	077201
S. Javaiid, M. Bowen, S. Boukari, L. Joly, J.-B. Beaufrand, Xi Chen, Y.J. Dappe, F. Scheurer, J.-P. Kappler, J. Arabski, W. Wulfhekel, M. Alouani, and E. Beaurepaire	
Entanglement Spectra of Quantum Heisenberg Ladders	077202
Didier Poilblanc	
Magnetoelastics of a Spin Liquid: X-Ray Diffraction Studies of $\text{Tb}_2\text{Ti}_2\text{O}_7$ in Pulsed Magnetic Fields	077203
J.P. Ruff, Z. Islam, J.P. Clancy, K.A. Ross, H. Nojiri, Y.H. Matsuda, H.A. Dabkowska, A.D. Dabkowski, and B.D. Gaulin	
Interference between Selected Dipoles and Octupoles in the Optical Second-Harmonic Generation from Spherical Gold Nanoparticles	077401
J. Butet, G. Bachelier, I. Russier-Antoine, C. Jonin, E. Benichou, and P.-F. Brevet	
Spin Oscillations in Antiferromagnetic NiO Triggered by Circularly Polarized Light	077402
Takuya Satoh, Sung-Jin Cho, Ryugo Iida, Tsutomu Shimura, Kazuo Kuroda, Hiroaki Ueda, Yutaka Ueda, B.A. Ivanov, Franco Nori, and Manfred Fiebig	

(Continued on Preceding Page)



Selected for a Viewpoint in *Physics*. Please visit <http://physics.aps.org/>.

By suggesting a few manuscripts each week, we hope to promote reading across fields. Please see our Announcement Phys. Rev. Lett. 98, 010001 (2007).

Contents (Continued)

Bootstrap Tomography of the Pulses for Quantum Control	077601
V. V. Dobrovitski, G. de Lange, D. Ristè, and R. Hanson	

Soft Matter, Biological, and Interdisciplinary Physics

Pulsating Tandem Microbubble for Localized and Directional Single-Cell Membrane Poration	078101
G. N. Sankin, F. Yuan, and P. Zhong	
Limited Resources in a Driven Diffusion Process	078102
Chris A. Brackley, M. Carmen Romano, Celso Grebogi, and Marco Thiel	
Glassy Dislocation Dynamics in 2D Colloidal Dimer Crystals	078301
Sharon J. Gerbode, Umang Agarwal, Desmond C. Ong, Chekesha M. Liddell, Fernando Escobedo, and Itai Cohen	

Errata

Publisher's Note: Bridging Multiferroic Phase Transitions by Epitaxial Strain in BiFeO ₃ [Phys. Rev. Lett. 105 , 057601 (2010)]	079901
I. C. Infante, S. Lisenkov, B. Dupé, M. Bibes, S. Fusil, E. Jacquet, G. Geneste, S. Petit, A. Courtial, J. Juraszek, L. Bellaiche, A. Barthélémy, and B. Dkhil	
Erratum: Correlations between Vibrational Entropy and Dynamics in Liquids [Phys. Rev. Lett. 104 , 095901 (2010)]	079902
Matthieu Wyart	



Selected for a Viewpoint in *Physics*. Please visit <http://physics.aps.org/>.

By suggesting a few manuscripts each week, we hope to promote reading across fields. Please see our Announcement Phys. Rev. Lett. 98, 010001 (2007).

Physical Review
Focus

Brief explanations of selected papers from this and other APS journals appear regularly at the *Phys. Rev. Focus* web site (<http://focus.aps.org>). Readers can also sign up for weekly e-mail summaries of *Focus* stories.