



Top and side view of a bundle of hexagonally ordered semiflexible biopolymers, twisted by the chirality of the polymers. The torsional elastic energy grows with the bundle radius, providing an intrinsic limit on the size of biopolymer bundles. See article 098101.

PHYSICAL REVIEW LETTERS

Contents

Articles published 25 August–31 August 2007

VOLUME 99, NUMBER 9

31 August 2007

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

- Topological Phases for Composite Particles with Dynamic Properties 090401
S.A. Horsley and M. Babiker
- Spectrum and Dynamics of the BCS-BEC Crossover from a Few-Body Perspective 090402
Javier von Stecher and Chris H. Greene
- Tomographic rf Spectroscopy of a Trapped Fermi Gas at Unitarity 090403
Y. Shin, C.H. Schunck, A. Schirotzek, and W. Ketterle
- Survival Probabilities in Coherent Exciton Transfer with Trapping 090601
Oliver Mülken, Alexander Blumen, Thomas Amthor, Christian Giese, Markus Reetz-Lamour, and Matthias Weidemüller

Gravitation and Astrophysics

- Molecular Magnetic Dichroism in Spectra of White Dwarfs 091101
S.V. Berdyugina, A.V. Berdyugin, and V. Piirola
- Limits on Interactions between Weakly Interacting Massive Particles and Nucleons Obtained with CsI(Tl) Crystal Detectors 091301
H.S. Lee, H.C. Bhang, J.H. Choi, H. Dao, I.S. Hahn, M.J. Hwang, S.W. Jung, W.G. Kang, D.W. Kim, H.J. Kim, S.C. Kim, S.K. Kim, Y.D. Kim, J.W. Kwak, Y.J. Kwon, J. Lee, J.H. Lee, J.I. Lee, M.J. Lee, S.J. Lee, J. Li, X. Li, Y.J. Li, S.S. Myung, S. Ryu, J.H. So, Q. Yue, and J.J. Zhu (KIMS Collaboration)

Nuclear Physics

- Transverse Beam Spin Asymmetries in Forward-Angle Elastic Electron-Proton Scattering 092301
D.S. Armstrong *et al.* (G0 Collaboration)
- Ab Initio* Study of ^{40}Ca with an Importance-Truncated No-Core Shell Model 092501
R. Roth and P. Navrátil
- Microscopic Description of Nuclear Quantum Phase Transitions 092502
T. Nikšić, D. Vretenar, G.A. Lalazissis, and P. Ring
- High-Energy-Resolution Inelastic Electron and Proton Scattering and the Multiphonon Nature of Mixed-Symmetry 2^+ States in ^{94}Mo 092503
O. Burda, N. Botha, J. Carter, R.W. Fearick, S.V. Förtsch, C. Fransen, H. Fujita, J.D. Holt, M. Kuhar, A. Lenhardt, P. von Neumann-Cosel, R. Neveling, N. Pietralla, V.Yu. Ponomarev, A. Richter, O. Scholten, E. Sideras-Haddad, F.D. Smit, and J. Wambach

Atomic, Molecular, and Optical Physics

- Numerical Observation of the Rescattering Wave Packet in Laser-Atom Interactions 093001
X.M. Tong, S. Watahiki, K. Hino, and N. Toshima

(Continued Inside)



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

Copyright 2007 by The American Physical Society



0031-9007(20070831)99:9;1-N

Contents (Continued)

Selective Alignment of Molecular Spin Isomers	093002
Sharly Fleischer, Ilya Sh. Averbukh, and Yehiam Prior	
Nonlinear Dynamics, Fluid Dynamics, Classical Optics, etc.	
Theory of Ground State Cooling of a Mechanical Oscillator Using Dynamical Backaction	093901
I. Wilson-Rae, N. Nooshi, W. Zwerger, and T.J. Kippenberg	
Quantum Theory of Cavity-Assisted Sideband Cooling of Mechanical Motion	093902
Florian Marquardt, Joe P. Chen, A.A. Clerk, and S.M. Girvin	
Mitigating Heat Dissipation in Raman Lasers Using Coherent Anti-Stokes Raman Scattering	093903
Nathalie Vermeulen, Christof Debaes, Peter Muys, and Hugo Thienpont	
Metamaterial with Simultaneously Negative Bulk Modulus and Mass Density	093904
Yiqun Ding, Zhengyou Liu, Chunyin Qiu, and Jing Shi	
Mesoscopic Phase Statistics of Diffuse Ultrasound in Dynamic Matter	094301
M.L. Cowan, D. Anache-Ménier, W.K. Hildebrand, J.H. Page, and B.A. van Tiggelen	
Resonant Chaotic Mixing in a Cellular Flow	094501
Dmitri L. Vainchtein, John Widloski, and Roman O. Grigoriev	
Dripping to Jetting Transitions in Coflowing Liquid Streams	094502
Andrew S. Utada, Alberto Fernandez-Nieves, Howard A. Stone, and David A. Weitz	
How Insulating Particles Increase the Conductivity of a Suspension	094503
N. Pannacci, L. Lobry, and E. Lemaire	
Order Parameter Modeling of Fluid Dynamics in Narrow Confinements Subjected to Hydrophobic Interactions	094504
Suman Chakraborty	
Plasma and Beam Physics	
Enhanced Confinement and Quasi-Single-Helicity Regimes Induced by Poloidal Current Drive	095001
D. Terranova, A. Alfier, F. Bonomo, P. Franz, P. Innocente, and R. Pasqualotto	
Highly Resolved Self-Excited Density Waves in a Complex Plasma	095002
M. Schwabe, M. Rubin-Zuzic, S. Zhdanov, H.M. Thomas, and G.E. Morfill	
Condensed Matter: Structure, etc.	
 Giant Viscosity Enhancement in a Spin-Polarized Fermi Liquid	095301
H. Akimoto, J.S. Xia, D. Candela, W.J. Mullin, E.D. Adams, and N.S. Sullivan	
Correlation of Atomic Cluster Symmetry and Glass-Forming Ability of Metallic Glass	095501
Xue kui Xi, Li long Li, Bo Zhang, Wei hua Wang, and Yue Wu	
Quantum Critical Scaling of the Geometric Tensors	095701
Lorenzo Campos Venuti and Paolo Zanardi	
Mean-Field Versus Microconvection Effects in Nanofluid Thermal Conduction	095901
Jacob Eapen, Wesley C. Williams, Jacopo Buongiorno, Lin-wen Hu, Sidney Yip, Roberto Rusconi, and Roberto Piazza	
Physisorption of Positronium on Quartz Surfaces	096101
R. Saniz, B. Barbiellini, P.M. Platzman, and A.J. Freeman	
Electronic Structure of MgO-Supported Au Clusters: Quantum Dots Probed by Scanning Tunneling Microscopy	096102
Michael Walter, Pentti Frondelius, Karoliina Honkala, and Hannu Häkkinen	
Spontaneous Domain Switching during Phase Separation of Pb on Ge(111)	096103
Y. Sato, S. Chiang, and N.C. Bartelt	
Partially Wetting Thin Liquid Films: Structure and Dynamics Studied with Coherent X Rays	096104
C. Gutt, M. Sprung, R. Fendt, A. Madsen, S.K. Sinha, and M. Tolan	
Condensed Matter: Electronic Properties, etc.	
Nonlinear Interactions between Electromagnetic Waves and Electron Plasma Oscillations in Quantum Plasmas	096401
P.K. Shukla and B. Eliasson	
Coulomb Blockade of Anyons in Quantum Antidots	096801
Dmitri V. Averin and James A. Nesteroff	

(Continued on Preceding Page)

Contents (Continued)

Polarization of a Charge Qubit Strongly Coupled to a Voltage-Driven Quantum Point Contact	096802
I. Snyman and Y.V. Nazarov	
Counterflow of Electrons in Two Isolated Quantum Point Contacts	096803
V.S. Khrapai, S. Ludwig, J.P. Kotthaus, H.P. Tranitz, and W. Wegscheider	
Large Nuclear Overhauser Fields Detected in Vertically Coupled Double Quantum Dots	096804
Jonathan Baugh, Yosuke Kitamura, Keiji Ono, and Seigo Tarucha	
Evidence for Gapped Spin-Wave Excitations in the Frustrated $\text{Gd}_2\text{Sn}_2\text{O}_7$ Pyrochlore Antiferromagnet from Low-Temperature Specific Heat Measurements	097201
J.A. Quilliam, K.A. Ross, A.G. Del Maestro, M.J. Gingras, L.R. Corruccini, and J.B. Kycia	
Spin Hamiltonian for which the Chiral Spin Liquid is the Exact Ground State	097202
Darrell F. Schroeter, Eliot Kapit, Ronny Thomale, and Martin Greiter	
Modes of Periodic Domain Wall Motion in Ultrathin Ferromagnetic Layers	097203
W. Kleemann, J. Rhensius, O. Petravic, J. Ferré, J.P. Jamet, and H. Bernas	
Universal Alternating Order around Impurities in Antiferromagnets	097204
Sebastian Eggert, Olav F. Syljuåsen, Fabrizio Anfuso, and Markus Andres	
Thermally Assisted Current-Driven Bistable Precessional Regimes in Asymmetric Spin Valves	097205
M. Gmitra and J. Barnás	
Effects of Cu Dilution in IrMn on the Exchange Bias of CoFe/IrMn Bilayers	097206
Marian Fecioru-Morariu, Syed Rizwan Ali, Cristian Papusoi, Martin Sperlich, and Gernot Güntherodt	
Fast Spin State Initialization in a Singly Charged InAs-GaAs Quantum Dot by Optical Cooling	097401
Xiaodong Xu, Yanwen Wu, Bo Sun, Qiong Huang, Jun Cheng, D.G. Steel, A.S. Bracker, D. Gammon, C. Emary, and L.J. Sham	
Selective Optical Control of Electron Spin Coherence in Singly Charged GaAs- $\text{Al}_{0.3}\text{Ga}_{0.7}\text{As}$ Quantum Dots	097402
Yanwen Wu, Erik D. Kim, Xiaodong Xu, Jun Cheng, D.G. Steel, A.S. Bracker, D. Gammon, Sophia E. Economou, and L.J. Sham	
 Nuclear Forward Scattering for High Energy Mössbauer Transitions	097601
I. Sergueev, A.I. Chumakov, T.H. Beaume-Dang, R. Rüffer, C. Strohm, and U. van Bürc	
Soft Matter, Biological, and Interdisciplinary Physics	
Chirality and Equilibrium Biopolymer Bundles	098101
Gregory M. Grason and Robijn F. Bruinsma	
Synchronization of Plant Circadian Oscillators with a Phase Delay Effect of the Vein Network	098102
Hirokazu Fukuda, Norihito Nakamichi, Mihoe Hisatsune, Haruhiko Murase, and Takeshi Mizuno	
Lensless Diffractive Imaging Using Tabletop Coherent High-Harmonic Soft-X-Ray Beams	098103
Richard L. Sandberg, Ariel Paul, Daisy A. Raymondson, Steffen Hädrich, David M. Gaudiosi, Jim Holtsnider, Ra'anan I. Tobey, Oren Cohen, Margaret M. Murnane, Henry C. Kapteyn, Changyong Song, Jianwei Miao, Yanwei Liu, and Farhad Salmassi	
“Sticky” Hard Spheres: Equation of State, Phase Diagram, and Metastable Gels	098301
Stefano Buzzaccaro, Roberto Rusconi, and Roberto Piazza	
Coupling of Transverse and Longitudinal Response in Stiff Polymers	098302
Benedikt Obermayer and Oskar Hallatschek	
Localization Transition of Biased Random Walks on Random Networks	098701
Vishal Sood and Peter Grassberger	
Comments	
Comment on “Reduction of the Spin-Orbit Splittings at the $N = 28$ Shell Closure”	099201
Angelo Signoracci and B. Alex Brown	
Gaudefroy <i>et al.</i> Reply	099202
L. Gaudefroy, O. Sorlin, D. Beaumel, Y. Blumenfeld, Z. Dombrádi, S. Fortier, S. Franchoo, M. Gélín, J. Gibelin, S. Grévy, F. Hammache, F. Ibrahim, K.W. Kemper, K.-L. Kratz, S.M. Lukyanov, C. Monrozeau, L. Nalpas, F. Nowacki, A.N. Ostrowski, T. Otsuka, Yu.-E. Penionzhkevich, J. Piekarewicz, E.C. Pollacco, P. Roussel-Chomaz, E. Rich, J.A. Scarpaci, M.G. St. Laurent, D. Sohler, M. Stanoiu, T. Suzuki, E. Tryggestad, and D. Verney	

(Continued on Preceding Page)

Contents (Continued)

Comment on “Torus Instability” James Chen	099501
--	--------

Errata

Erratum: Thermal Effects on Domain Wall Depinning from a Single Notch [Phys. Rev. Lett. 98 , 267202 (2007)] ... E. Martinez, L. Lopez-Diaz, O. Alejos, L. Torres, and C. Tristan	099901
Publisher’s Note: Novel Coexistence of Superconductivity with Two Distinct Magnetic Orders [Phys. Rev. Lett. 95 , 217002 (2005)] A. Llobet, A.D. Christianson, Wei Bao, J.S. Gardner, I.P. Swainson, J.W. Lynn, J.-M. Mignot, K. Prokes, P.G. Pagliuso, N.O. Moreno, J.L. Sarrao, J.D. Thompson, and A.H. Lacerda	099902



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.