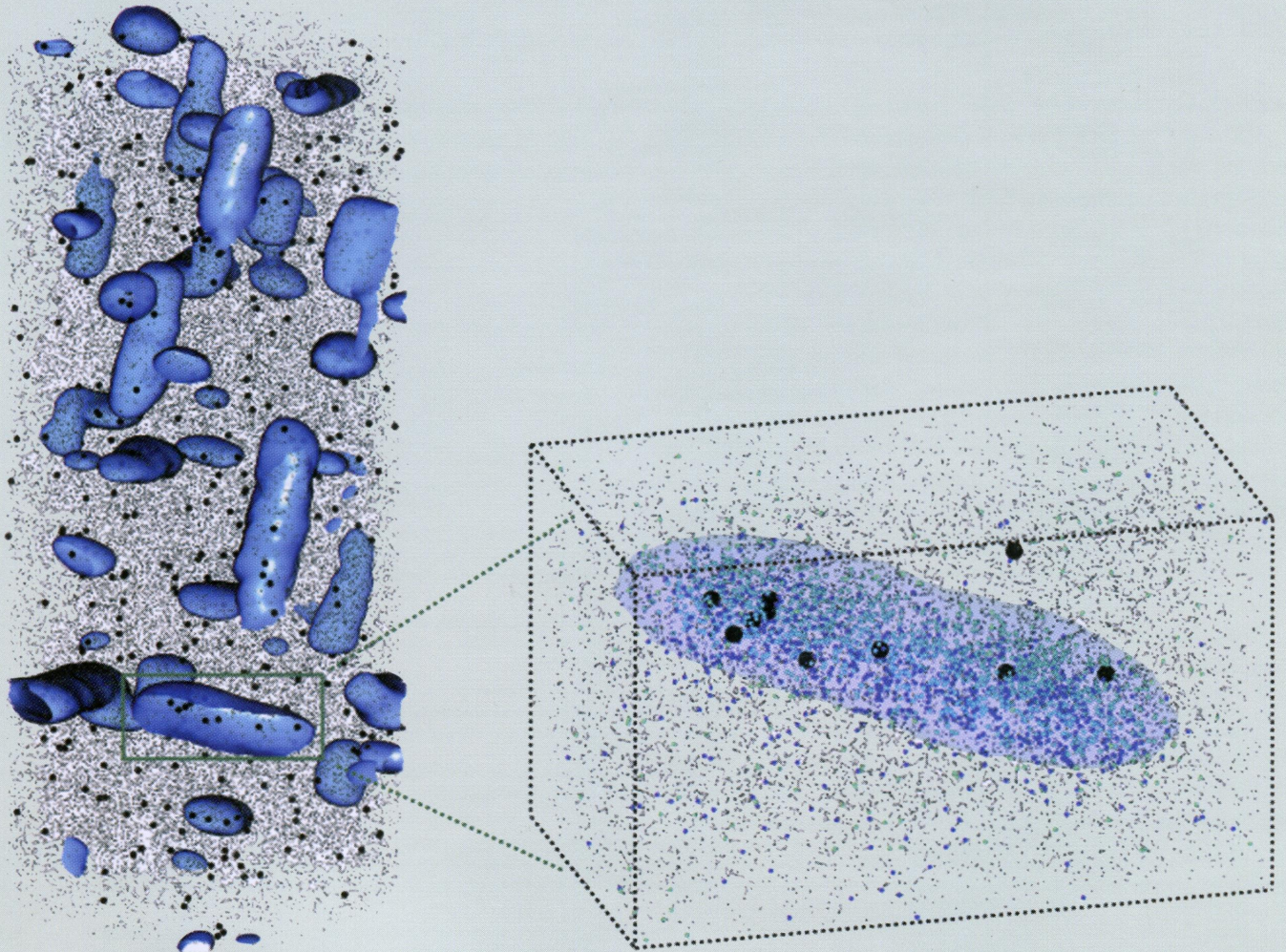


FM  
p59/m

# PHYSICAL REVIEW LETTERS™

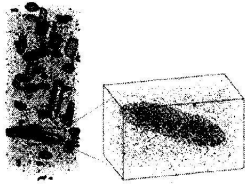
Articles published week ending 6 JUNE 2014



Published by  
**American Physical Society™**

**APS**  
physics™

Volume 112, Number 22



Atom probe tomogram of an artificially aged Sn-doped Al-Mg-Si alloy, with a close-up on one Mg-Si precipitate. The blue surfaces represent equal Mg and Si stoichiometry, and the black dots are Sn atoms. [Stefan Pogatscher *et al.*, Phys. Rev. Lett. **112**, 225701 (2014)]

PHYSICAL REVIEW LETTERS™


Contents

Articles published 31 May–6 June 2014


VOLUME 112, NUMBER 22

6 June 2014

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

	Thermalization and Revivals after a Quantum Quench in Conformal Field Theory .....	220401
	John Cardy	
	Experimental Realization of a Compressed Quantum Simulation of a 32-Spin Ising Chain .....	220501
	Zhaokai Li, Hui Zhou, Chenyong Ju, Hongwei Chen, Wenqiang Zheng, Dawei Lu, Xing Rong, Changkui Duan, Xinhua Peng, and Jiangfeng Du	
	Real-Space Decoupling Transformation for Quantum Many-Body Systems .....	220502
	G. Evenbly and G. Vidal	
	Fluctuating Interfaces Subject to Stochastic Resetting .....	220601
	Shamik Gupta, Satya N. Majumdar, and Grégory Schehr	
	Nonequilibrium Glassy Dynamics of Self-Propelled Hard Disks .....	220602
	Ludovic Berthier	

**Gravitation and Astrophysics**

	Kerr Black Holes with Scalar Hair .....	221101
	Carlos A. R. Herdeiro and Eugen Radu	
	Clear and Measurable Signature of Modified Gravity in the Galaxy Velocity Field .....	221102
	Wojciech A. Hellwing, Alexandre Barreira, Carlos S. Frenk, Baojiu Li, and Shaun Cole	
	Quantum Monte Carlo Calculations of Neutron Matter with Nonlocal Chiral Interactions .....	221103
	Alessandro Roggero, Abhishek Mukherjee, and Francesco Pederiva	
	Value of $H_0$ in the Inhomogeneous Universe .....	221301
	Ido Ben-Dayan, Ruth Durrer, Giovanni Marozzi, and Dominik J. Schwarz	

**Elementary Particles and Fields**

	Falsifying High-Scale Leptogenesis at the LHC .....	221601
	Frank F. Deppisch, Julia Harz, and Martin Hirsch	
	Longitudinal Coherence in a Holographic Model of Asymmetric Collisions .....	221602
	Jorge Casalderrey-Solana, Michal P. Heller, David Mateos, and Wilke van der Schee	
	Measurement of $B(t \rightarrow Wb)/B(t \rightarrow Wq)$ in Top-Quark-Pair Decays Using Dilepton Events and the Full CDF Run II Data Set .....	221801
	T. Aaltonen <i>et al.</i> (CDF Collaboration)	
	Search at the Mainz Microtron for Light Massive Gauge Bosons Relevant for the Muon $g - 2$ Anomaly .....	221802
	H. Merkel, P. Achenbach, C. Ayerbe Gayoso, T. Beranek, J. Beričić, J. C. Bernauer, R. Böhm, D. Bosnar, L. Correa, L. Debenjak, A. Denig, M. O. Distler, A. Esser, H. Fonvieille, I. Frišić, M. Gómez Rodríguez de la Paz, M. Hoek, S. Kegel, Y. Kohl, D. G. Middleton, M. Mihovilović, U. Müller, L. Nungesser, J. Pochodzalla, M. Rohrbeck, G. Ron, S. Sánchez Majos, B. S. Schlimme, M. Schoth, F. Schulz, C. Sfienti, S. Širca, M. Thiel, A. Tyukin, A. Weber, and M. Weinriefer (A1 Collaboration)	




(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).



Supersymmetric Exotic Decays of the 125 GeV Higgs Boson .....	221803
Jinrui Huang, Tao Liu, Lian-Tao Wang, and Felix Yu	
Selection Rules for Hadronic Transitions of XYZ Mesons .....	222001
Eric Braaten, Christian Langmack, and D. Hudson Smith	
 Observation of the Resonant Character of the $Z(4430)^-$ State .....	222002
R. Aaij <i>et al.</i> (LHCb Collaboration)	
<b>Nuclear Physics</b>	
Azimuthal-Angle Dependence of Charged-Pion-Interferometry Measurements with Respect to Second- and Third-Order Event Planes in Au + Au Collisions at $\sqrt{s_{NN}} = 200$ GeV .....	222301
A. Adare <i>et al.</i> (PHENIX Collaboration)	
Observation of the $\beta$ -Delayed $\gamma$ -Proton Decay of $^{56}\text{Zn}$ and its Impact on the Gamow-Teller Strength Evaluation .....	222501
S. E. A. Orrigo, B. Rubio, Y. Fujita, B. Blank, W. Gelletly, J. Agramunt, A. Algora, P. Ascher, B. Bilgier, L. Cáceres, R. B. Cakirli, H. Fujita, E. Ganioglu, M. Gerbaux, J. Giovinazzo, S. Grévy, O. Kamalou, H. C. Kozler, L. Kucuk, T. Kurtukian-Nieto, F. Molina, L. Popescu, A. M. Rogers, G. Susoy, C. Stodel, T. Suzuki, A. Tamii, and J. C. Thomas	
<b>Atomic, Molecular, and Optical Physics</b>	
Complete Photoionization Experiments via Ultrafast Coherent Control with Polarization Multiplexing .....	223001
P. Hockett, M. Wollenhaupt, C. Lux, and T. Baumert	
Harnessing Vacuum Forces for Quantum Sensing of Graphene Motion .....	223601
Christine A. Muschik, Simon Moulieras, Adrian Bachtold, Frank H. L. Koppens, Maciej Lewenstein, and Darrick E. Chang	
 Scalable Spatial Superresolution Using Entangled Photons .....	223602
Lee A. Rozema, James D. Bateman, Dylan H. Mahler, Ryo Okamoto, Amir Feizpour, Alex Hayat, and Aephraim M. Steinberg	
Synchronized Switching in a Josephson Junction Crystal .....	223603
Martin Leib and Michael J. Hartmann	
<b>Nonlinear Dynamics, Fluid Dynamics, Classical Optics, etc.</b>	
How Lasing Localized Structures Evolve out of Passive Mode Locking .....	223901
M. Marconi, J. Javaloyes, S. Balle, and M. Giudici	
Superfilamentation in Air .....	223902
Guillaume Point, Yohann Brelet, Aurélien Houard, Vytautas Jukna, Carles Milián, Jérôme Carbonnel, Yi Liu, Arnaud Couairon, and André Mysyrowicz	
Intrinsic Power Oscillations Generated by the Backaction of Continuum on Solitons and its Implications on the Transfer Functions of a Mode-Locked Laser .....	223903
C.-C. Lee and T. R. Schibli	
Dynamic Wavelength Conversion in Copropagating Slow-Light Pulses .....	223904
K. Kondo and T. Baba	
Coherence and Incoherence in an Optical Comb .....	224101
Evgeny A. Viktorov, Tatiana Habruseva, Stephen P. Hegarty, Guillaume Huyet, and Bryan Kelleher	
<b>Plasma and Beam Physics</b>	
Muon Cooling: Longitudinal Compression .....	224801
Yu Bao, Aldo Antognini, Wilhelm Bertl, Malte Hildebrandt, Kim Siang Khaw, Klaus Kirch, Angela Papa, Claude Petitjean, Florian M. Piegsa, Stefan Ritt, Kamil Sedlak, Alexey Stoykov, and David Taqqu	
 Detection of Lower Tropospheric Responses to Solar Energetic Particles at Midlatitudes .....	225001
K. A. Nicoll and R. G. Harrison	
Observation of a Reflected Shock in an Indirectly Driven Spherical Implosion at the National Ignition Facility .....	225002
S. Le Pape, L. Divol, L. Berzak Hopkins, A. Mackinnon, N. B. Meezan, D. Casey, J. Frenje, H. Herrmann, J. McNaney, T. Ma, K. Widmann, A. Pak, G. Grimm, J. Knauer, R. Petrasso, A. Zylstra, H. Rinderknecht, M. Rosenberg, M. Gatu-Johnson, and J. D. Kilkenny	

(Continued on Preceding Page)

**Condensed Matter: Structure, etc.**

☞ Critical Exponents of the Superfluid–Bose–Glass Transition in Three Dimensions .....	225301
Zhiyuan Yao, Karine P. C. da Costa, Mikhail Kiselev, and Nikolay Prokof'ev	
Towards Template-Assisted Assembly of Nematic Colloids .....	225501
Nuno M. Silvestre, Qingkun Liu, Bohdan Senyuk, Ivan I. Smalyukh, and Mykola Tasinkevych	
Emergent Structure of Multidislocation Ground States in Curved Crystals .....	225502
Amir Azadi and Gregory M. Grason	
Diffusion on Demand to Control Precipitation Aging: Application to Al-Mg-Si Alloys .....	225701
S. Pogatscher, H. Antrekowitsch, M. Werinos, F. Moszner, S. S. A. Gerstl, M. F. Francis, W. A. Curtin, J. F. Löffler, and P. J. Uggowitzer	

**Condensed Matter: Electronic Properties, etc.**

Critical Exponents of Strongly Correlated Fermion Systems from Diagrammatic Multiscale Methods .....	226401
Andrey E. Antipov, Emanuel Gull, and Stefan Kirchner	
Importance of Charge Fluctuations for the Topological Phase in $\text{SmB}_6$ .....	226402
Chul-Hee Min, P. Lutz, S. Fiedler, B. Y. Kang, B. K. Cho, H.-D. Kim, H. Bentmann, and F. Reinert	
Giant Fluctuations of Local Magnetoresistance of Organic Spin Valves and the Non-Hermitian 1D Anderson Model ...	226601
R. C. Roundy, D. Nemirovsky, V. Kagalovsky, and M. E. Raikh	
☞ Enhanced Thermoelectric Performance and Anomalous Seebeck Effects in Topological Insulators .....	226801
Yong Xu, Zhongxue Gan, and Shou-Cheng Zhang	
Evidence of van Hove Singularities in Ordered Grain Boundaries of Graphene .....	226802
Chuanxu Ma, Haifeng Sun, Yeliang Zhao, Bin Li, Qunxiang Li, Aidi Zhao, Xiaoping Wang, Yi Luo, Jinlong Yang, Bing Wang, and J. G. Hou	
☞ Self-Referenced Single-Electron Quantized Current Source .....	226803
Lukas Fricke, Michael Wulf, Bernd Kaestner, Frank Hohls, Philipp Mirovsky, Brigitte Mackrodt, Ralf Dolata, Thomas Weimann, Klaus Pierz, Uwe Siegner, and Hans W. Schumacher	
Effect of Disorder on the Resistivity Anisotropy Near the Electronic Nematic Phase Transition in Pure and Electron-Doped $\text{BaFe}_2\text{As}_2$ .....	227001
Hsueh-Hui Kuo and Ian R. Fisher	
Superfluid Spin Transport Through Easy-Plane Ferromagnetic Insulators .....	227201
So Takei and Yaroslav Tserkovnyak	
Extreme Harmonic Generation in Electrically Driven Spin Resonance .....	227601
J. Stehlik, M. D. Schroer, M. Z. Maialle, M. H. Degani, and J. R. Petta	

**Soft Matter, Biological, and Interdisciplinary Physics**

Consequences of Anomalous Diffusion in Disordered Systems under Cyclic Forcing .....	228001
Mitch Mailman, Matt Harrington, Michelle Girvan, and Wolfgang Losert	
Granular Dynamics During Impact .....	228002
K. N. Nordstrom, E. Lim, M. Harrington, and W. Losert	
☞ Possible Origin of Stagnation and Variability of Earth's Biodiversity .....	228101
Frank Stollmeier, Theo Geisel, and Jan Nagler	
Charge-Transfer Excited States in Aqueous DNA: Insights from Many-Body Green's Function Theory .....	228301
Huabing Yin, Yuchen Ma, Jinglin Mu, Chengbu Liu, and Michael Rohlfing	

**Comments**

Comment on "Lithium Synthesis in Microquasar Accretion" .....	229001
Banibrata Mukhopadhyay	
Iocco and Pato Reply .....	229002
Fabio Iocco and Miguel Pato	

(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)

**Errata**

Erratum: Cavity Cooling of an Ensemble Spin System [Phys. Rev. Lett. 112, 050501 (2014)] ..... 229901  
Christopher J. Wood, Troy W. Borneman, and David G. Cory



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).



The American Physical Society's free online publication, *Physics* (<http://physics.aps.org/>), provides thought-provoking analysis and spotlights exceptional research.