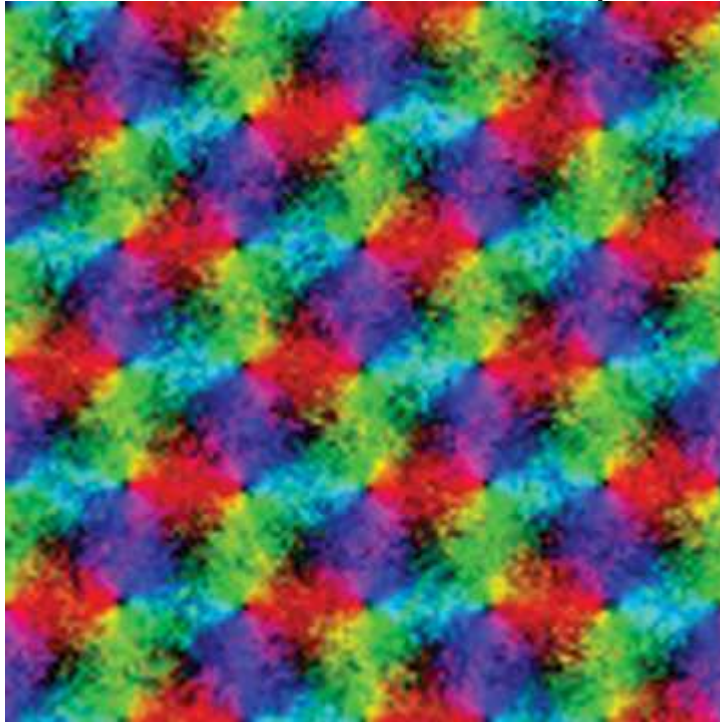


PHYSICAL REVIEW LETTERS

Volume 114, Issue 16, 24 April 2015



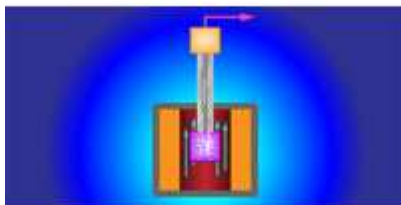
HIGHLIGHTED ARTICLES

Featured in Physics Editors' Suggestion

Single-Electron Detection and Spectroscopy via Relativistic Cyclotron Radiation

D.M. Asner *et al.* (Project 8 Collaboration)

Phys. Rev. Lett. **114**, 162501 (2015) – Published 20 April 2015



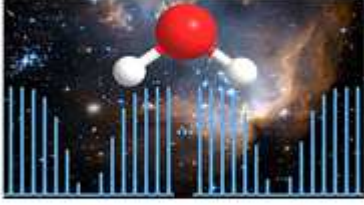
An electron's energy can be determined with high accuracy by detecting the radiation it emits when moving in a magnetic field.

Featured in Physics Editors' Suggestion

Decade-Spanning High-Precision Terahertz Frequency Comb

Ian A. Finneran, Jacob T. Good, Daniel B. Holland, P. Brandon Carroll, Marco A. Allodi, and Geoffrey A. Blake

Phys. Rev. Lett. **114**, 163902 (2015) – Published 21 April 2015



A new scheme to generate terahertz frequency combs features unprecedented bandwidth and frequency accuracy.

Featured in Physics Editors' Suggestion

Probing Atmospheric Electric Fields in Thunderstorms through Radio Emission from Cosmic-Ray-Induced Air Showers

P. Schellart *et al.*

Phys. Rev. Lett. **114**, 165001 (2015) – Published 24 April 2015



Radio waves generated by cosmic rays provide an unprecedented view of the elusive electric fields in thunderstorms.

Featured in Physics

Public Good Diffusion Limits Microbial Mutualism

Rajita Menon and Kirill S. Korolev

Phys. Rev. Lett. **114**, 168102 (2015) – Published 23 April 2015



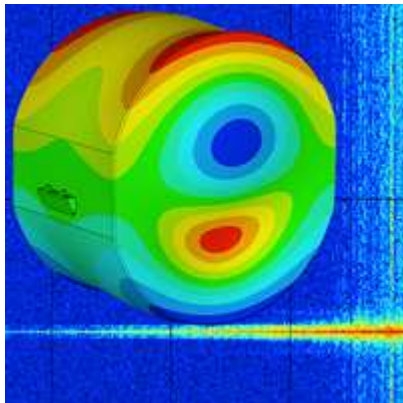
Microbial cooperation involves the diffusion of nutrients from one species to another, but too high a diffusion rate weakens the cooperative bond.

Editors' Suggestion

Observation of Parametric Instability in Advanced LIGO

Matthew Evans *et al.*

Phys. Rev. Lett. **114**, 161102 (2015) – Published 23 April 2015

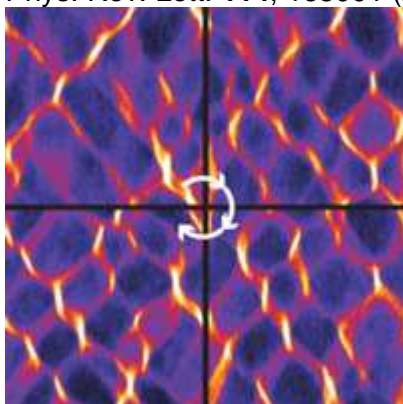


Ground-based interferometric gravitational wave detectors are predicted to suffer from instabilities that strongly limit the sensitivity of the detectors. Arising from a coupling between optical and mechanical resonances, these instabilities are experimentally observed for the first time.

Editors' Suggestion

Collective Motion of Self-Propelled Particles with Memory

Ken H. Nagai, Yutaka Sumino, Raul Montagne, Igor S. Aranson, and Hugues Chaté
 Phys. Rev. Lett. **114**, 168001 (2015) – Published 24 April 2015



Large vortex and lane structures, as well as other coherent patterns, form in active systems when underdamped stochastic dynamics are modeled.

LETTERS

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

Anomalous Diffusion and Griffiths Effects Near the Many-Body Localization Transition

Kartiek Agarwal, Sarang Gopalakrishnan, Michael Knap, Markus Müller, and Eugene Demler
 Phys. Rev. Lett. **114**, 160401 (2015) – Published 23 April 2015

Evaluating Convex Roof Entanglement Measures

Géza Tóth, Tobias Moroder, and Otfried Gühne
 Phys. Rev. Lett. **114**, 160501 (2015) – Published 21 April 2015

Maximally Nonlocal Theories Cannot Be Maximally Random

Gonzalo de la Torre, Matty J. Hoban, Chirag Dhara, Giuseppe Pretico, and Antonio Acín
 Phys. Rev. Lett. **114**, 160502 (2015) – Published 22 April 2015

Quantum de Finetti Theorem under Fully-One-Way Adaptive Measurements

Ke Li and Graeme Smith
 Phys. Rev. Lett. **114**, 160503 (2015) – Published 24 April 2015

Gravitation and Astrophysics

Constraints on New Gravitylike Forces in the Nanometer Range

Y. Kamiya, K. Itagaki, M. Tani, G.N. Kim, and S. Komamiya
 Phys. Rev. Lett. **114**, 161101 (2015) – Published 22 April 2015

Editors' Suggestion

Observation of Parametric Instability in Advanced LIGO

Matthew Evans *et al.*

Phys. Rev. Lett. **114**, 161102 (2015) – Published 23 April 2015

Modeling the Dynamics of Tidally Interacting Binary Neutron Stars up to the Merger

Sebastiano Bernuzzi, Alessandro Nagar, Tim Dietrich, and Thibault Damour

Phys. Rev. Lett. **114**, 161103 (2015) – Published 23 April 2015

Searching for Dark Matter and Variation of Fundamental Constants with Laser and Maser Interferometry

Y.V. Stadnik and V.V. Flambaum

Phys. Rev. Lett. **114**, 161301 (2015) – Published 22 April 2015

Elementary Particles and Fields

Massless Mode and Positivity Violation in Hot QCD

Nan Su and Konrad Tywoniuk

Phys. Rev. Lett. **114**, 161601 (2015) – Published 24 April 2015

Search for Scalar Charm Quark Pair Production in pp Collisions at $s\sqrt{=8 TeV}$ with the ATLAS Detector

G. Aad *et al.* (ATLAS Collaboration)

Phys. Rev. Lett. **114**, 161801 (2015) – Published 22 April 2015

Nonstandard Semileptonic Hyperon Decays

Hsi-Ming Chang, Martin González-Alonso, and Jorge Martin Camalich

Phys. Rev. Lett. **114**, 161802 (2015) – Published 24 April 2015

Nuclear Physics

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Single-Electron Detection and Spectroscopy via Relativistic Cyclotron Radiation

D.M. Asner *et al.* (Project 8 Collaboration)

Phys. Rev. Lett. **114**, 162501 (2015) – Published 20 April 2015

Atomic, Molecular, and Optical Physics

Channel-Resolved Above-Threshold Double Ionization of Acetylene

Xiaochun Gong, Qiyong Song, Qinying Ji, Kang Lin, Haifeng Pan, Jingxin Ding, Heping Zeng, and Jian Wu

Phys. Rev. Lett. **114**, 163001 (2015) – Published 22 April 2015

Nonlinear Dynamics, Fluid Dynamics, Classical Optics, etc.

Conical Dispersion and Effective Zero Refractive Index in Photonic Quasicrystals

Jian-Wen Dong, Ming-Li Chang, Xue-Qin Huang, Zhi Hong Hang, Zhi-Chao Zhong, Wen-Jie Chen, Zhan-Yun Huang, and C.T. Chan

Phys. Rev. Lett. **114**, 163901 (2015) – Published 20 April 2015

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Phys. Rev. Lett. **114**, 163902 (2015) – Published 21 April 2015

Excitation of Magnetic Dipole Transitions at Optical Frequencies

Mark Kasperczyk, Steven Person, Duarte Ananias, Luis D. Carlos, and Lukas Novotny

Phys. Rev. Lett. **114**, 163903 (2015) – Published 23 April 2015

Plasma and Beam Physics

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Probing Atmospheric Electric Fields in Thunderstorms through Radio Emission from Cosmic-Ray-Induced Air Showers

P. Schellart *et al.*

Phys. Rev. Lett. **114**, 165001 (2015) – Published 24 April 2015

Condensed Matter: Structure, etc.

Helium Mass Flow Through a Solid-Superfluid-Solid Junction

Zhi Gang Cheng, John Beamish, Andrew D. Fefferman, Fabien Souris, Sébastien Balibar, and Vincent Dauvois

Phys. Rev. Lett. **114**, 165301 (2015) – Published 22 April 2015

Shear Melting and High Temperature Embrittlement: Theory and Application to Machining Titanium

Con Healy, Sascha Koch, Carsten Siemers, Debashis Mukherji, and Graeme J. Ackland
Phys. Rev. Lett. **114**, 165501 (2015) – Published 21 April 2015

Bonding Effects on the Slip Differences in the B1 Monocarbides

Nicholas De Leon, Xiao-xiang Yu, Hang Yu, Christopher R. Weinberger, and Gregory B. Thompson
Phys. Rev. Lett. **114**, 165502 (2015) – Published 24 April 2015

Dynamics of Water Dissociative Chemisorption on Ni(111): Effects of Impact Sites and Incident Angles

Bin Jiang and Hua Guo
Phys. Rev. Lett. **114**, 166101 (2015) – Published 20 April 2015

Atomic-Resolution STEM Imaging of Graphene at Low Voltage of 30 kV with Resolution Enhancement by Using Large Convergence Angle

H. Sawada, T. Sasaki, F. Hosokawa, and K. Suenaga
Phys. Rev. Lett. **114**, 166102 (2015) – Published 24 April 2015

Condensed Matter: Electronic Properties, etc.

Critical Behavior of a Strongly Disordered 2D Electron System: The Cases of Long-Range and Screened Coulomb Interactions

Ping V. Lin and Dragana Popović
Phys. Rev. Lett. **114**, 166401 (2015) – Published 20 April 2015

Novel P–T Phase Diagram of the Multiorbital Mott Insulator Sr₂VO₄

S. Karmakar and Pallavi S. Malavi
Phys. Rev. Lett. **114**, 166402 (2015) – Published 22 April 2015

Site-Selective Mott Transition in a Quasi-One-Dimensional Vanadate V₆O₁₃

Yasuhiro Shimizu, Satoshi Aoyama, Takaaki Jinno, Masayuki Itoh, and Yutaka Ueda
Phys. Rev. Lett. **114**, 166403 (2015) – Published 22 April 2015

Topological Properties and the Dynamical Crossover from Mixed-Valence to Kondo-Lattice Behavior in the Golden Phase of SmS

Chang-Jong Kang, Hong Chul Choi, Kyoo Kim, and B. I. Min
Phys. Rev. Lett. **114**, 166404 (2015) – Published 22 April 2015

First-Principles Photoemission Spectroscopy and Orbital Tomography in Molecules from Koopmans-Compliant Functionals

Ngoc Linh Nguyen, Giovanni Borghi, Andrea Ferretti, Ismaila Dabo, and Nicola Marzari
Phys. Rev. Lett. **114**, 166405 (2015) – Published 24 April 2015

Signatures of Majorana Zero Modes in Spin-Resolved Current Correlations

Arbel Haim, Erez Berg, Felix von Oppen, and Yuval Oreg
Phys. Rev. Lett. **114**, 166406 (2015) – Published 24 April 2015

Critical Transport in Weakly Disordered Semiconductors and Semimetals

S.V. Syzranov, L. Radzihovsky, and V. Gurarie
Phys. Rev. Lett. **114**, 166601 (2015) – Published 20 April 2015

Charge-to-Spin Conversion and Spin Diffusion in Bi/Ag Bilayers Observed by Spin-Polarized Positron Beam

H.J. Zhang, S. Yamamoto, B. Gu, H. Li, M. Maekawa, Y. Fukaya, and A. Kawasuso
Phys. Rev. Lett. **114**, 166602 (2015) – Published 22 April 2015

Spin-Flip and Element-Sensitive Electron Scattering in the BiAg₂ Surface Alloy

S. Schirone, E.E. Krasovskii, G. Bihlmayer, R. Piquerel, P. Gambardella, and A. Mugarza
Phys. Rev. Lett. **114**, 166801 (2015) – Published 22 April 2015

Regular Rather than Chaotic Origin of the Resonant Transport in Superlattices

S.M. Soskin, I.A. Khovanov, and P.V.E. McClintock
Phys. Rev. Lett. **114**, 166802 (2015) – Published 22 April 2015

Effect of Chiral Symmetry on Chaotic Scattering from Majorana Zero Modes

H. Schomerus, M. Marciani, and C.W.J. Beenakker

Phys. Rev. Lett. **114**, 166803 (2015) – Published 23 April 2015

Spin-Orbit Interactions and the Nematicity Observed in the Fe-Based Superconductors

P.D. Johnson, H.-B. Yang, J.D. Rameau, G.D. Gu, Z.-H. Pan, T. Valla, M. Weinert, and A.V. Fedorov

Phys. Rev. Lett. **114**, 167001 (2015) – Published 23 April 2015

Long-Range Spin Accumulation from Heat Injection in Mesoscopic Superconductors with Zeeman Splitting

M. Silaev, P. Virtanen, F. S. Bergeret, and T. T. Heikkilä

Phys. Rev. Lett. **114**, 167002 (2015) – Published 23 April 2015

Quantum Paramagnet in a π Flux Triangular Lattice Hubbard Model

Stephan Rachel, Manuel Laubach, Johannes Reuther, and Ronny Thomale

Phys. Rev. Lett. **114**, 167201 (2015) – Published 23 April 2015

Polymer, Soft Matter, Biological, and Interdisciplinary Physics

Editors' Suggestion

Collective Motion of Self-Propelled Particles with Memory

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Phys. Rev. Lett. **114**, 168001 (2015) – Published 24 April 2015

Synaptic Democracy and Vesicular Transport in Axons

Paul C. Bressloff and Ethan Levien

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Public Good Diffusion Limits Microbial Mutualism

Rajita Menon and Kirill S. Korolev

Phys. Rev. Lett. **114**, 168102 (2015) – Published 23 April 2015

Shear-Driven Failure of Liquid-Infused Surfaces

Jason S. Wexler, Ian Jacobi, and Howard A. Stone

Phys. Rev. Lett. **114**, 168301 (2015) – Published 22 April 2015

COMMENTS

Comment on "Measurement of Two- and Three-Nucleon Short-Range Correlation Probabilities in Nuclei"

Douglas W. Higinbotham and Or Hen

Phys. Rev. Lett. **114**, 169201 (2015) – Published 24 April 2015