

Oscillations in concentration (represented by color) of a reaction product induced by Marangoni- and buoyancy-driven convection. Vertical axis is time, pointing down. Horizontal axis is space. Selected for an Editors' Suggestion. [M. A. Budroni, V. Upadhyay, and L. Rongy, Phys. Rev. Lett. **122**, 244502 (2019)]

NEWSPAPER

PHYSICAL REVIEW LETTERS

Contents

Articles published 15 June–21 June 2019

VOLUME 122, NUMBER 24 21 June 2019

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

Geometry of Einstein-Podolsky-Rosen Correlations 240401
H. Chau Nguyen, Huy-Viet Nguyen, and Otfried Gühne
Many-Body Localization in the Presence of a Central Qudit 240402
Nathan Ng and Michael Kolodrubetz
Anonymity for Practical Quantum Networks 240501
Anupama Unnikrishnan, Ian J. MacFarlane, Richard Yi, Eleni Diamanti, Damian Markham, and Iordanis Kerenidis
Partial Fermionization: Spectral Universality in 1D Repulsive Bose Gases 240601
Quirin Hummel, Juan Diego Urbina, and Klaus Richter
Efficiency of a Quantum Otto Heat Engine Operating under a Reservoir at Effective Negative Temperatures 240602
Rogério J. de Assis, Taysa M. de Mendonça, Celso J. Villas-Boas, Alexandre M. de Souza, Roberto S. Sarthour, Ivan S. Oliveira, and Norton G. de Almeida
Evidence for Supersymmetry in the Random-Field Ising Model at $D = 5$ 240603
Nikolaos G. Fytas, Víctor Martín-Mayor, Giorgio Parisi, Marco Picco, and Nicolas Sourlas
Work Distributions on Quantum Fields 240604
Alvaro Ortega, Emma McKay, Álvaro M. Alhambra, and Eduardo Martín-Martínez
Topologically Protected Long Edge Coherence Times in Symmetry-Broken Phases 240605
Daniel E. Parker, Romain Vasseur, and Thomas Scaffidi
Integrability-Protected Adiabatic Reversibility in Quantum Spin Chains 240606
Alvise Bastianello and Andrea De Luca

Gravitation and Astrophysics

Inferring the Flavor of High-Energy Astrophysical Neutrinos at Their Sources 241101
Mauricio Bustamante and Markus Ahlers

Elementary Particles and Fields

Spectral Walls in Soliton Collisions 241601
C. Adam, K. Oles, T. Romanczukiewicz, and A. Wereszczynski
From the Weyl Anomaly to Entropy of Two-Dimensional Boundaries and Defects 241602
Kristan Jensen, Andy O'Bannon, Brandon Robinson, and Ronnie Rodgers
Flavor Symmetries and Unitarity Bounds in $\mathcal{N} = 2$ Superconformal Field Theories 241603
Christopher Beem
Bootstrapping QCD Using Pion Scattering Amplitudes 241604
Andrea L. Guerrieri, João Penedones, and Pedro Vieira
Static Two-Body Potential at Fifth Post-Newtonian Order 241605
Stefano Foffa, Pierpaolo Mastrolia, Riccardo Sturani, Christian Sturm, and William J. Torres Bobadilla

(Continued Inside)

This paper was highlighted in the APS publication *Physics* (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).

Copyright 2019 American Physical Society

0031-9007(20190621)122:24;1-8

Emergence of a Complete Heavy-Quark Spin Symmetry Multiplet: Seven Molecular Pentaquarks in Light of the Latest LHCb Analysis 242001
Ming-Zhu Liu, Ya-Wen Pan, Fang-Zheng Peng, Mario Sánchez Sánchez, Li-Sheng Geng, Atsushi Hosaka, and Manuel Pavon Valderrama

Nuclear Physics

Measurement of the Weak Axial-Vector Coupling Constant in the Decay of Free Neutrons Using a Pulsed Cold Neutron Beam 242501
B. Märkisch, H. Mest, H. Saul, X. Wang, H. Abele, D. Dubbers, M. Klopf, A. Petoukhov, C. Roick, T. Soldner, and D. Werder

Atomic, Molecular, and Optical Physics

Cavity Quantum Electrodynamics with Frequency-Dependent Reflectors 243601
Ondřej Černotík, Aurélien Dantan, and Claudiu Genes

Photon Blockade in Weakly Driven Cavity Quantum Electrodynamics Systems with Many Emitters 243602
Rahul Trivedi, Marina Radulaski, Kevin A. Fischer, Shanhui Fan, and Jelena Vučković

Nonlinear Dynamics, Fluid Dynamics, Classical Optics, etc.

Realization of an Acoustic Third-Order Topological Insulator 244301
Haoran Xue, Yahui Yang, Guigeng Liu, Fei Gao, Yidong Chong, and Baile Zhang

Stability Limit of Electrified Droplets 244501
J. Beroz, A. J. Hart, and J. W. M. Bush

Making a Simple $A + B \rightarrow C$ Reaction Oscillate by Coupling to Hydrodynamic Effect 244502
M. A. Budroni, V. Upadhyay, and L. Rongy

Plasma and Beam Physics

Noninvasive 3D Field Mapping of Complex Static Electric Fields 244801
Andreas Kainz, Franz Keplinger, Wilfried Hortschitz, Matthias Kahr, Harald Steiner, Michael Stifter, James R. Hunt, Javier Resta-Lopez, Volodymyr Rodin, Carsten P. Welsch, Jan Borburgh, Matthew Alexander Fraser, and Wolfgang Bartmann

Direct Observations of Particle Dynamics in Magnetized Collisionless Shock Precursors in Laser-Produced Plasmas 245001
D. B. Schaeffer, W. Fox, R. K. Follett, G. Fiksel, C. K. Li, J. Matteucci, A. Bhattacharjee, and K. Germaschewski

Condensed Matter: Structure, etc.

Dissipation-Assisted Coherence Formation in a Spinor Quantum Gas 245301
Yujiro Eto, Hitoshi Shibayama, Kosuke Shibata, Aki Torii, Keita Nabeta, Hiroki Saito, and Takuya Hirano

Temperature Dependence of Homogeneous Nucleation in Ice 245501
Haiyang Niu, Yi Isaac Yang, and Michele Parrinello

Darcy's Law for Yield Stress Fluids 245502
Chen Liu, Andrea De Luca, Alberto Rosso, and Laurent Talon

Rotational Instability in Superlubric Joints 246101
Cangyu Qu, Songlin Shi, Ming Ma, and Quanshui Zheng

Condensed Matter: Electronic Properties, etc.

Strong Coupling Phases of Partially Filled Twisted Bilayer Graphene Narrow Bands 246401
Jian Kang and Oskar Vafek

Ferromagnetic Mott state in Twisted Graphene Bilayers at the Magic Angle 246402
Kangjun Seo, Valeri N. Kotov, and Bruno Uchoa

Polarons from First Principles, without Supercells 246403
Weng Hong Sio, Carla Verdi, Samuel Poncé, and Feliciano Giustino

(Continued on Preceding Page)

This paper was highlighted in the APS publication *Physics* (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)

Quantum Interference Theory of Magnetoresistance in Dirac Materials 246601
Bo Fu, Huan-Wen Wang, and Shun-Qing Shen
Melting of Interference in the Fractional Quantum Hall Effect: Appearance of Neutral Modes 246801
Rajarshi Bhattacharyya, Mitali Banerjee, Moty Heiblum, Diana Mahalu, and Vladimir Umansky
Nonclassical Optical Properties of Mesoscopic Gold 246802
Swen Großmann, Daniel Friedrich, Michael Karolak, René Kullock, Enno Krauss, Monika Emmerling, Giorgio Sangiovanni, and Bert Hecht
Direct Determination of Band-Gap Renormalization in the Photoexcited Monolayer MoS_2 246803
Fang Liu, Mark E. Ziffer, Kameron R. Hansen, Jue Wang, and Xiaoyang Zhu
Sign-Reversing Hall Effect in Atomically Thin High-Temperature $Bi_{2.1}Sr_{1.9}CaCu_{2.0}O_{8+\delta}$ Superconductors 247001
S. Y. Frank Zhao, Nicola Poccia, Margaret G. Panetta, Cyndia Yu, Jedediah W. Johnson, Hyobin Yoo, Ruidan Zhong, G. D. Gu, Kenji Watanabe, Takashi Taniguchi, Svetlana V. Postolova, Valerii M. Vinokur, and Philip Kim
Superconductivity in the Surface State of Noble Metal Gold and its Fermi Level Tuning by EuS Dielectric 247002
Peng Wei, Sujit Manna, Marius Eich, Patrick Lee, and Jagadeesh Moodera
Spin Stripe Order in a Square Planar Trilayer Nickelate 247201
Junjie Zhang, D. M. Pajerowski, A. S. Botana, Hong Zheng, L. Harriger, J. Rodriguez-Rivera, J. P. C. Ruff, N. J. Schreiber, B. Wang, Yu-Sheng Chen, W. C. Chen, M. R. Norman, S. Rosenkranz, J. F. Mitchell, and D. Phelan
Spin Pinning and Spin-Wave Dispersion in Nanoscopic Ferromagnetic Waveguides 247202
Q. Wang, B. Heinz, R. Verba, M. Kewenig, P. Pirro, M. Schneider, T. Meyer, B. Lägel, C. Dubs, T. Brächer, and A. V. Chumak
Electron Spin Coherence in Optically Excited States of Rare-Earth Ions for Microwave to Optical Quantum Transducers 247401
Sacha Welinski, Philip J. T. Woodburn, Nikolai Lauk, Rufus L. Cone, Christoph Simon, Philippe Goldner, and Charles W. Thiel
Stroboscopic Tests for Thermalization of Electrons in Pump-Probe Experiments 247402
O. P. Matveev, A. M. Shvaika, T. P. Devereaux, and J. K. Freericks
Optical Detection of Single-Electron Tunneling into a Semiconductor Quantum Dot 247403
A. Kurzmann, P. Stegmann, J. Kerski, R. Schott, A. Ludwig, A. D. Wieck, J. König, A. Lorke, and M. Geller
Electric-Field Control of Magnetization, Jahn-Teller Distortion, and Orbital Ordering in Ferroelectric Ferromagnets 247701
Lan Chen, Changsong Xu, Hao Tian, Hongjun Xiang, Jorge Íñiguez, Yurong Yang, and L. Bellaiche
Chiral Voltage Propagation and Calibration in a Topolectrical Chern Circuit 247702
Tobias Hofmann, Tobias Helbig, Ching Hua Lee, Martin Greiter, and Ronny Thomale

Polymer, Soft Matter, Biological, Climate, and Interdisciplinary Physics

Soft Nucleation of an Elastic Crease 248001
P. Ciarletta and L. Truskinovsky
Signatures of Topological Phonons in Superisostatic Lattices 248002
Olaf Stenull and T. C. Lubensky
Structure-Property Relationships via Recovery Rheology in Viscoelastic Materials 248003
Johnny Ching-Wei Lee, Katie M. Weigandt, Elizabeth G. Kelley, and Simon A. Rogers
Elastocapillary Ridge as a Noninteger Disclination 248004
Robin Masurel, Matthieu Roché, Laurent Limat, Ioan Ionescu, and Julien Dervaux
Like-Charge Attraction between Metal Nanoparticles in a 1:1 Electrolyte Solution 248005
Alexandre P. dos Santos and Yan Levin
Phase Transitions in a Single Supported Phospholipid Bilayer: Real-Time Determination by Neutron Reflectometry 248101
Yuri Gerelli

(Continued on Preceding Page)

This paper was highlighted in the APS publication *Physics* (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)

Self-Driven Phase Transitions Drive *Myxococcus xanthus* Fruiting Body Formation 248102
Guannan Liu, Adam Patch, Fatmagül Bahar, David Yllanes, Roy D. Welch, M. Cristina Marchetti, Shashi Thutupalli, and Joshua W. Shaevitz
Abrupt Desynchronization and Extensive Multistability in Globally Coupled Oscillator Simplexes 248301
Per Sebastian Skardal and Alex Arenas

This paper was highlighted in the APS publication *Physics* (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).

Physics
spotlighting exceptional research

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