

Schematic of a scanning superconducting quantum interference device on a quasi-2D superconductor with thermal and quantum phase fluctuations. Selected for an Editors' Suggestion. [Y. Iguchi *et al.*, Phys. Rev. Lett. **133**, 036001 (2024)]

NEWSPAPER

PHYSICAL REVIEW LETTERS

Contents

Articles published 13 July–19 July 2024

VOLUME 133, NUMBER 3 19 July 2024

Editorials, Essays, and Announcements

Editorial: Whither Letters? 030001
Robert Garisto and Hugues Chaté

Quantum Information, Science, and Technology

Robust Effective Ground State in a Nonintegrable Floquet Quantum Circuit 030401
Tatsuhiko N. Ikeda, Sho Sugiura, and Anatoli Polkovnikov
Candidate for a Passively Protected Quantum Memory in Two Dimensions 030601
Simon Lieu, Yu-Jie Liu, and Alexey V. Gorshkov
Quantum Codes from Twisted Unitary t-Groups 030602
Eric Kubischta and Ian Teixeira
Reversing Unknown Quantum Processes via Virtual Combs for Channels with Limited Information 030801
Chengkai Zhu, Yin Mo, Yu-Ao Chen, and Xin Wang

Cosmology, Astrophysics, and Gravitation

Connecting Cosmic Inflation to Particle Physics with LiteBIRD, CMB-S4, EUCLID, and SKA 031001
Marco Drewes and Lei Ming
Nonlinear Treatment of a Black Hole Mimicker Ringdown 031401
Nils Siemonsen
g Theorem from Strong Subadditivity 031501
Jonathan Harper, Hiroki Kanda, Tadashi Takayanagi, and Kenya Tasuki

Particles and Fields

Tracy-Widom Distribution in Four-Dimensional Supersymmetric Yang-Mills Theories 031601
Zoltan Bajnok, Bercel Boldis, and Gregory P. Korchemsky
Supersymmetric States in Anti–de Sitter $D = 3$ Supergravity with Chiral Torsion 031602
Laura Andrianopoli, Ruggero Noris, Mario Trigiante, and Jorge Zanelli
Microstates of Accelerating and Supersymmetric AdS_4 Black Holes from the Spindle Index 031603
Edoardo Colombo, Seyed Morteza Hosseini, Dario Martelli, Antonio Pittelli, and Alberto Zaffaroni
Probing CP Violation with Neutrino Disappearance Alone 031801
Peter B. Denton
Statistical Combination of ATLAS Run 2 Searches for Charginos and Neutralinos at the LHC 031802
G. Aad *et al.* (ATLAS Collaboration)

Nuclear Physics

Simulations of Stochastic Fluid Dynamics near a Critical Point in the Phase Diagram 032301
Chandrodoy Chattopadhyay, Josh Ott, Thomas Schäfer, and Vladimir V. Skokov

(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 2024 American Physical Society

0031-9007(20240719)133:3;1-Z

Infinite Order Hydrodynamics: An Analytical Example 032302
L. Gavassino

Substantial Nuclear Hyperfine Mixing Effect in Boronlike ^{205}Pb Ions 032501
Wu Wang and Xu Wang

Atomic, Molecular, and Optical Physics

Improved Measurement of the Differential Polarizability Using Co-Trapped Ions 033001
Yuan-Fei Wei, Si-Jia Chao, Kai-Feng Cui, Cheng-Bin Li, Shi-Cheng Yu, Han Zhang, Hua-Lin Shu, Jian Cao, and Xue-Ren Huang

Simultaneous Real and Momentum Space Electron Diffraction from a Fullerene Molecule 033002
R. Aiswarya, Rasheed Shaik, Jobin Jose, Hari R. Varma, and Himadri S. Chakraborty

Electroweak Nuclear Properties from Single Molecular Ions in a Penning Trap 033003
J. Karthein, S. M. Udrescu, S. B. Moroch, I. Belosevic, K. Blaum, A. Borschevsky, Y. Chamorro, D. DeMille, J. Dilling, R. F. Garcia Ruiz, N. R. Hutzler, L. F. Pašteka, and R. Ringle

Individual Addressing and State Readout of Trapped Ions Utilizing Radio-Frequency Micromotion 033201
Nathan K. Lysne, Justin F. Niedermeyer, Andrew C. Wilson, Daniel H. Slichter, and Dietrich Leibfried

Unveiling Nonsecular Collisional Dissipation of Molecular Alignment 033202
Pu Wang, Lixin He, Yu Deng, Siqi Sun, Pengfei Lan, and Peixiang Lu

Multi-ion Frequency Reference Using Dynamical Decoupling 033203
Lennart Pelzer, Kai Dietze, Víctor José Martínez-Lahuerta, Ludwig Krinner, Johannes Kramer, Fabian Dawel, Nicolas C. H. Spethmann, Klemens Hammerer, and Piet O. Schmidt

Symmetry Protected Two-Photon Coherence Time 033601
Xuanying Lai, Christopher Li, Alan Zanders, Yefeng Mei, and Shengwang Du

Characterizing Biphoton Spatial Wave Function Dynamics with Quantum Wavefront Sensing 033602
Yi Zheng, Zhao-Di Liu, Rui-Heng Miao, Jin-Ming Cui, Mu Yang, Xiao-Ye Xu, Jin-Shi Xu, Chuan-Feng Li, and Guang-Can Guo

Error-Tolerant Amplification and Simulation of the Ultrastrong-Coupling Quantum Rabi Model 033603
Ye-Hong Chen, Zhi-Cheng Shi, Franco Nori, and Yan Xia

Purifying Photon Indistinguishability through Quantum Interference 033604
Carlos F. D. Faurby, Lorenzo Carosini, Huan Cao, Patrik I. Sund, Lena M. Hansen, Francesco Giorgino, Andrew B. Villadsen, Stefan N. van den Hoven, Peter Lodahl, Stefano Paesani, Juan C. Loredo, and Philip Walther

Nanoplasmonic Photoelectron Rescattering in the Multiphoton-Induced Emission Regime 033801
Balázs Bánhegyi, Gellért Zsolt Kiss, Zsuzsanna Pápa, Péter Sándor, Lázár Tóth, László Péter, Péter Rácz, and Péter Dombi

Physics of Fluids, Earth & Planetary Science, and Climate

Liquid Surfaces with Chaotic Capillary Waves Exhibit an Effective Surface Tension 034001
Steffen Bisswanger, Henning Bonart, Pyi Thein Khaing, and Steffen Hardt

Water Impact: When a Sphere Becomes Flat 034002
Jesse Belden, Nathan Speirs, Aren Hellum, George Loubimov, and Tadd T. Truscott

Stability Transition in Gap Expansion-Driven Interfacial Flow 034003
Dongqi Li, Zhibing Yang, Amir A. Pahlavan, Renjun Zhang, Ran Hu, and Yi-Feng Chen

Bursting of Underwater Oil Drops 034004
Varun Kulkarni, Venkata Yashasvi Lolla, Suhas Tamvada, and Sushant Anand

Atlantic Meridional Overturning Circulation Decline: Tipping Small Scales under Global Warming 034201
Ruijian Gou, Gerrit Lohmann, and Lixin Wu

Plasma and Solar Physics, Accelerators and Beams

Experimental Observation of Space-Charge Field Screening of a Relativistic Particle Bunch in Plasma 035001
L. Verra, M. Galletti, R. Pompili, A. Biagioni, M. Carillo, A. Cianchi, L. Crincoli, A. Curcio, F. Demurtas, G. Di Pirro, V. Lollo, G. Parise, D. Pellegrini, S. Romeo, G. J. Silvi, F. Villa, and M. Ferrario

(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)

Identification of Coupled Landau and Anomalous Resonances in Space Plasmas 035201
Jing-Huan Li, Xu-Zhi Zhou, Zhi-Yang Liu, Shan Wang, Anton V. Artemyev, Yoshiharu Omura, Xiao-Jia Zhang, Li Li, Chao Yue, Qiu-Gang Zong, Craig Pollock, Guan Le, and James L. Burch

Condensed Matter and Materials

Anomalous Superfluid Density in a Disordered Charge-Density-Wave Material: Pd-Intercalated $ErTe_3$ 036001
Yusuke Iguchi, Joshua A. Straquadine, Chaitanya Murthy, Steven A. Kivelson, Anisha G. Singh, Ian R. Fisher, and Kathryn A. Moler

Tunneling Spectroscopy at Megabar Pressures: Determination of the Superconducting Gap in Sulfur 036002
F. Du, F. F. Balakirev, V. S. Minkov, G. A. Smith, B. Maiorov, P. P. Kong, A. P. Drozdov, and M. I. Eremets

Isotropic Quantum Griffiths Singularity in $Nd_{0.8}Sr_{0.2}NiO_2$ Infinite-Layer Superconducting Thin Films 036003
Qiang Zhao, Ting-Na Shao, Wen-Long Yang, Xue-Yan Wang, Xing-Yu Chen, Mei-Hui Chen, Fang-Hui Zhu, Cheng-Xue Chen, Rui-Fen Dou, Chang-Min Xiong, Haiwen Liu, and Jia-Cai Nie

Picosecond Trajectory of Two-Dimensional Vortex Motion in $FeSe_{0.5}Te_{0.5}$ Visualized by Terahertz Second Harmonic Generation 036004
Sachiko Nakamura, Haruki Matsumoto, Hiroki Ogawa, Tomoki Kobayashi, Fuyuki Nabeshima, Atsutaka Maeda, and Ryo Shimano

Spin-Orbit-Locking Chiral Bound States in the Continuum 036201
Xingqi Zhao, Jiajun Wang, Wenzhe Liu, Zhiyuan Che, Xinhao Wang, C. T. Chan, Lei Shi, and Jian Zi

Stabilizing the Ferroelectric Phase of $Hf_{0.5}Zr_{0.5}O_2$ Thin Films by Charge Transfer 036202
Shu Shi, Tengfei Cao, Haolong Xi, Jiangzhen Niu, Xixiang Jing, Hanxin Su, Xiaojiang Yu, Ping Yang, Yichen Wu, Xiaobing Yan, He Tian, Evgeny Y. Tsymbal, and Jingsheng Chen

First-Principles Nonadiabatic Dynamics of Molecules at Metal Surfaces with Vibrationally Coupled Electron Transfer 036203
Gang Meng, James Gardner, Nils Hertl, Wenjie Dou, Reinhard J. Maurer, and Bin Jiang

Geometric Amplitude Accompanying Local Responses: Spinor Phase Information from the Amplitudes of Spin-Polarized STM Measurements 036204
Shu-Hui Zhang, Jin Yang, Ding-Fu Shao, Jia-Ji Zhu, Wen Yang, and Kai Chang

Resonant Plasmon-Assisted Tunneling in a Double Quantum Dot Coupled to a Quantum Hall Plasmon Resonator 036301
Chaojing Lin, Ko Futamata, Takafumi Akiho, Koji Muraki, and Toshimasa Fujisawa

Topologically Localized Vibronic Excitations in Second-Layer Graphene Nanoribbons 036401
Zhengya Wang, Ruoting Yin, Zixi Tang, Hongjian Du, Yifan Liang, Xiaoqing Wang, Qing-Song Deng, Yuan-Zhi Tan, Yao Zhang, Chuanxu Ma, Shijing Tan, and Bing Wang

Spin-Orbit-Lattice Entangled State in A_2MgReO_6 (A = Ca, Sr, Ba) Revealed by Resonant Inelastic X-Ray Scattering 036501
Felix I. Frontini, Graham H. J. Johnstone, Naoya Iwahara, Pritam Bhattacharyya, Nikolay A. Bogdanov, Liviu Hozoi, Mary H. Upton, Diego M. Casa, Daigorou Hirai, and Young-June Kim

Non-Abelian Anyons in Periodically Driven Abelian Spin Liquids 036601
Francesco Petiziol

Thermal and Coherent Spin Pumping by Noncollinear Antiferromagnets 036701
Ping Tang and Gerrit E. W. Bauer

Valley-Free Silicon Fins Caused by Shear Strain 037001
Christoph Adelsberger, Stefano Bosco, Jelena Klinovaja, and Daniel Loss

Statistical Physics; Classical, Nonlinear, and Complex Systems

Disorder-Induced Anomalous Mobility Enhancement in Confined Geometries 037101
Dan Shafir and Stanislav Burov

Polymers, Chemical Physics, Soft Matter, and Biological Physics

Dielectric Properties of a Ferroelectric Nematic Material: Quantitative Test of the Polarization-Capacitance Goldstone Mode 038101
Alex Adaka, Mojtaba Rajabi, Nilanthi Haputhantrige, Samuel Sprunt, Oleg D. Lavrentovich, and Antal Jákli

(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)

Unveiling the Phase Diagram and Reaction Paths of the Active Model B with the Deep Minimum Action Method 038301
Ruben Zakine, Eric Simonnet, and Eric Vanden-Eijnden

Errata

Erratum: Frustrated Extended Bose-Hubbard Model and Deconfined Quantum Critical Points with Optical Lattices at the Antimagic Wavelength [Phys. Rev. Lett. **132**, 153401 (2024)] 039901
Niccolò Baldelli, Cesar R. Cabrera, Sergi Julià-Farré, Monika Aidelsburger, and Luca Barbiero
Erratum: Dissipative Effects in Odd Viscous Stokes Flow around a Single Sphere [Phys. Rev. Lett. **132**, 218303 (2024)] 039902
Jeffrey C. Everts and Bogdan Cichocki

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.