

Scanning tunneling microscope topographic image of a cluster-decorated Lieb lattice constructed with 57 Fe adatoms on a Ag(111) surface. Selected for a Synopsis in *Physics Magazine* and for an Editors' Suggestion. [H. T. Li *et al.*, Phys. Rev. Lett. **137**, 176401 (2026)]

NEWSPAPER

PHYSICAL REVIEW LETTERS

Contents

Articles published 17 October–23 October 2026

VOLUME 137, NUMBER 17 23 October 2026

Quantum Information, Science, and Technology

Bose Polarons as Relativistic Unruh-DeWitt Detectors: Entanglement Harvesting from Bose-Einstein Condensates 170401
T. Rick Perche, Francesco Gozzini, and Markus K. Oberthaler
Experimental Tomography of Quantum Many-Body Hamiltonians in Solids via Thermalization 170402
Haochuan Yin, Yuchen Li, Ze Wu, Liqiang Zhao, Shengyu Zhang, Pai Peng, Riqiang Fu, Dieter Suter, and Xinhua Peng
Genuine Quantum Strong Mpemba Effect by Eliminating Coherence 170403
Xiang Zhan, Huixia Gao, Lei Xiao, and Peng Xue
Entangling Ions with Engineered Light Gradients 170601
Tommaso Faorlin, Lorenz Panzl, Phoebe Grosser, Pablo Viñas, Alan Kahan, Walter Joseph Hörmann, Yannick Weiser, Giovanni Cerchiari, Thomas Feldker, Alexander Erhard, Georg Jacob, Juris Ulmanis, Rainer Blatt, Alejandro Bermudez, and Thomas Monz
Multirobust Control Pulses Designed by Iterative Quantum Kolmogorov-Arnold-Moser Algorithm 170801
M. Harutyunyan and S. Guérin
Quantum Sensing Using Geometrical Phase in Qubit-Oscillator Systems 170802
Nishchay Suri, Zhihui Wang, Tanay Roy, Davide Venturelli, and Wibe Albert de Jong
Twinned Dynamical Decoupling 170803
Nayden P. Nedev and Nikolay V. Vitanov
No-Go Theorem for Gaussian Quantum Repeaters from Fractional Extendibility 170804
Rabsan Galib Ahmed and Graeme Smith

Cosmology, Astrophysics, and Gravitation

Quasilinear Theory of Fast Flavor Instabilities 171001
Damiano F. G. Fiorillo and Georg G. Raffelt

Particles and Fields

Measurement of Coherent Elastic Neutrino-Nucleus Scattering on Germanium by COHERENT 171801
M. Adhikari *et al.*
Dark Matter, Baryon Number, and Cosmic-Ray Antinuclei 171802
Caleb Gemmell, Dan Hooper, Seth Koren, and Fabrizio Vassallo
Next-to-Next-to-Next-to-Leading-Order QCD Corrections to Photon-Pair Production 171901
Michał Czakon, Felix Eschment, Terry Generet, and Rene Poncelet
First Simultaneous Analysis of Transverse Momentum Dependent and Collinear Parton Distributions in the Proton 171902
P. C. Barry, A. Prokudin, T. Anderson, C. Cocuzza, L. Gamberg, W. Melnitchouk, E. Moffat, D. Pitonyak, J.-W. Qiu, N. Sato, A. Vladimirov, and R. M. Whitehill JAM Collaboration (TMD Analysis Group)

(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 2026 American Physical Society

0031-9007(20261023)137:17;1-B

Dihadron Transverse-Spin Asymmetries in Muon-Deuteron Deep-Inelastic Scattering 171903
G. D. Alexeev *et al.* (COMPASS Collaboration)

Nuclear Physics

Measurement of Jet Quenching in O+O Collisions at $\sqrt{s_{\mathrm{NN}}} = 200$ GeV by the STAR Experiment at RHIC 172301
B. E. Aboona *et al.* (STAR Collaboration)

Atomic, Molecular, and Optical Physics

One-Positron Quantum Cyclotron 173001
T. G. Myers, L. Soucy, B. A. D. Sukra, B. Sinha, and G. Gabrielse

Realization of a Synthetic Hall Torus with a Topological Charge Pump in a Spinor Bose-Einstein Condensate 173401
T.-H. Chien, S.-C. Wu, Y.-H. Su, L.-R. Liu, N.-C. Chiu, M. Sarkar, Q. Zhou, and Y.-J. Lin

Phase-Space Microscopes for Quantum Gases: Imaging Conjugate Variables and Momentum-Weighted Densities 173402
N. R. Cooper, Y. Yang, and C. Weitenberg

Optomechanical Detection of Individual Gas Collisions 173601
Yu-Han Tseng, Clarke A. Hardy, T. W. Penny, Cecily Lowe, Jacqueline Baeza-Rubio, Daniel Carney, and David C. Moore

Plasma and Solar Physics, Accelerators and Beams

Laboratory Demonstration of Coronal Heating via Magnetic Reconnection during Nanoflares 175101
Wei Sun, Yongli Ping, Chong Lv, Xianxu Jin, Longxing Li, Wenqiang Yuan, Li Feng, Can Ren, Zhu Lei, Baoxian Tian, Xiaofeng Xi, Jialun Chai, Mengqi Jin, Gaoyang Liu, Zhengdong Liu, Yapeng Zhang, Hongzheng Yu, Jun Xiong, Zhiyong Xie, Chen Wang, Wei Wang, Bin Qiao, Zhao Wang, Jiayong Zhong, and Bing Guo

Condensed Matter and Materials

Chirality-Resolved Spectroscopy of Caroli–de Gennes–Matricon States in Multiband $FeTe_{1-x}Se_x$ Superconductors 176001
T. Rõõm, A. Glezer Moshe, R. Nagarajan, U. Nagel, Hee Taek Yi, Seongshik Oh, and G. Blumberg

Directional Transport by Topological Pump of Localized Moiré Bulk States 176301
Dan Yao, Zhonghao Fu, Hailong He, Jiuyang Lu, Weiyin Deng, Liping Ye, Manzhu Ke, and Zhengyou Liu

Electronic Transport in Hexagonal-Boron-Nitride-Encapsulated Graphene Limited by Remote Phonon Scattering 176302
K. Dinar, F. Macheda, A. Guandalini, M. Paillet, C. Consejo, F. Teppe, B. Jouault, T. Sohier, and S. Nanot

Cluster-Decorated Lieb Lattice: A Convenient and Reliable Platform for Tuning Flat-Band Energy 176401
H. T. Li, W. L. Fan, Z. X. Zhang, R. G. Yan, T. Z. Ji, S. Y. Wang, L. Sun, G. Chen, B. F. Miao, and H. F. Ding

Diagrammatic Route to Multireference *GW* for Strongly Correlated Molecules 176402
Yuqi Wang, Wei-Hai Fang, and Zhendong Li

Contamination-Free Resolution of Cantor Spectra and Magic-Angle Localization in Moiré Quasicrystals and Aperiodic Media 176403
James Chok, Matthew J. Colbrook, Mark Embree, and Jake Fillman

Observation of Kondo Effect in Rhombohedral Graphene Superlattices 176501
Xin Liao, Qing Yin, Huiwen Wang, Jing-Wei Dong, Jun-Xi Chen, Si-Li Wu, Cai-Zhen Li, Guowei Lyu, Kenji Watanabe, Takashi Taniguchi, Wei Jiang, Yu-Gui Yao, and Zhi-Min Liao

Topological and Trivial Valence-Bond Orders in Higher-Spin Kitaev Models 176502
Xing-Yu Zhang, Qi Yang, Philippe Corboz, Jutho Haegeman, and Yuchi He

Tangent-Space Krylov Computation of Real-Frequency Spectral Functions: Influence of Density-Assisted Hopping on 2D Mott Physics 176503
Oleksandra Kovalska, Jan von Delft, and Andreas Gleis

Linear Ensemble-Constrained Quantum Monte Carlo: From Dilute Fermi Gas to Flat-Band Ferromagnetism 176504
Tu Hong, Kun Chen, and Xiao Yan Xu

Magnon Chern Insulator in Two-Dimensional Fully Compensated Ferrimagnetic Heterostructures 176601
Yingxi Bai, Zhiqi Chen, Baibiao Huang, Ying Dai, and Chengwang Niu

Bulk-Mediated Reflection of Chirality-Protected Surface Spin Waves 176701
Vitaliy I. Vasyuchka, Florin Ciubotaru, Andrii V. Chumak, Burkard Hillebrands, and Alexander A. Serga

(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)

Altermagnetism in Folded Iron Chain Systems 176702
Ling-Fang Lin, Yang Zhang, Satoshi Okamoto, Adriana Moreo, Lun-Hui Hu, and Elbio Dagotto
Selective Strain Tuning of Nonequilibrium Multiferroic Dynamics in $BiFeO_3$ 176901
Chenhang Xu, Patrick Liu, Bo Zhang, Minyong Han, Henry G. Bell, Cameron J. R. Duncan, Yusong Liu, Patrick L. Kramer, Randy Lemons, Jake D. Koralek, Alexander H. Reid, Dong Qian, Harold Y. Hwang, and Alfred Zong
Nonlinear Phonon-Assisted Up-Conversion Photoluminescence Under Vibrational Pumping at Liquid-Helium Temperatures 176902
Haonan Chang, Jia-Min Lai, Feilong Song, Yanpei Lv, and Jun Zhang
Reflection-Assisted Discrete Achromatic Diffraction 176903
Seokwoo Kim, Kyungtae Kim, Youngsun Jeon, Heechang Yun, Minseok Choi, Dohyun Kang, Chanbeom Jeon, Yejin Park, Geumseong Lee, and Junsuk Rho

Statistical Physics; Classical, Nonlinear, and Complex Systems

Singular Behavior of Observables at Hopf Bifurcations 177101
Benedikt Remlein and Massimiliano Esposito
Ultrafast Directed Transport via Energy Recuperation in Non-Markovian Systems 177102
Mateusz Wiśniewski and Jakub Spiechowicz

Polymers, Chemical Physics, Soft Matter, and Biological Physics

Role of Anisotropic Electronic Friction in Laser-Driven Hydrogen Recombination on Copper 178001
Alexander Spears, Wojciech G. Stark, and Reinhard J. Maurer
Rocking, Rolling, and Jumping: Rigid and Soft Ellipsoids Move in Many Modes 178201
Shih-Yuan Chen and Michelle M. Driscoll
Contact Forces in Microgel Suspensions 178202
Fran Ivan Vrban, Antonio Šiber, and Primož Ziherl

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.