2020 PHYSICAL REVIEW JOURNALS CATALOG





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Founded in 1899, the American Physical Society (APS) strives to advance and diffuse the knowledge of physics. In support of this objective, APS publishes primary research and review journals, four of which are open access.

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PHYSICAL REVIEW LETTERS (PRL)

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PRL covers the full range of applied, fundamental, and interdisciplinary physics research topics:

- General physics, including statistical and quantum mechanics and quantum information
- Gravitation, astrophysics, and cosmology
- Elementary particles and fields
- Nuclear physics
- Atomic, molecular, and optical physics
- Nonlinear dynamics, fluid dynamics, and classical optics
- Plasma and beam physics
- Condensed matter and materials physics
- Polymers, soft matter, biological, climate, and interdisciplinary physics, including networks

EDITORS

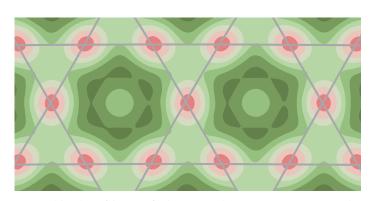
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Mean-Field Scaling of the Superfluid to Mott Insulator Transition in a 2D Optical Superlattice [Claire K. Thomas *et al.*, Phys. Rev. Lett. **119**, 100402 (2017)].

PHYSICAL REVIEW X (PRX)

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- Gravitation
- Industrial physics
- Interdisciplinary physics

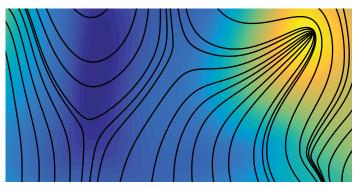
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EDITORS

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Topological Defects in a Living Nematic Ensnare Swimming Bacteria [Mikhail M. Genkin *et al.*, Phys. Rev. X **7**, 011029 (2017)].

REVIEWS OF MODERN PHYSICS (RMP)

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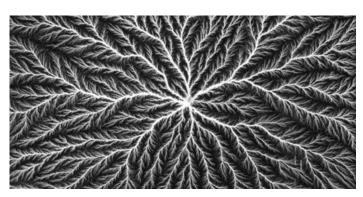
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EDITORS

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Experimental soft-matter science [Sidney R. Nagel, Rev. Mod. Phys. 89, 025002, (2017)].

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- physics of living systems
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- polymer science
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covering atomic, molecular, and optical physics and quantum information

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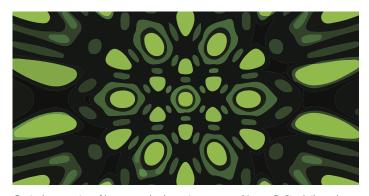
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- Atomic and molecular processes in external fields, including interactions with strong fields and short pulses
- Matter waves and collective properties of cold atoms and molecules
- Quantum optics, physics of lasers, nonlinear optics, and classical optics

EDITORS

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Thomas Pattard American Physical Society



Optical properties of honeycomb photonic structures [Artem D. Sinelnik et al., Phys. Rev. A 95, 063837 (2017)].

PHYSICAL REVIEW B (PRB)

covering condensed matter and materials physics

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- Topological states of matter

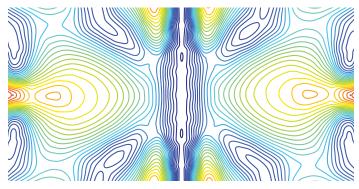
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Yonko Millev American Physical Society



Phonovoltaic. III. Electron-phonon coupling and figure of merit of graphene:BN [Corey Melnick and Massoud Kaviany, Phys. Rev. B **94**, 245412 (2016)].

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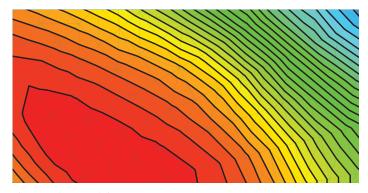
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- Nuclear reactions
- Relativistic nuclear collisions
- Hadronic physics and QCD
- Electroweak interaction, symmetries
- Nuclear astrophysics

EDITORS

Benjamin F. Gibson Los Alamos National Laboratory Christopher Wesselborg American Physical Society



Shape evolution and shape coexistence in Pt isotopes: Comparing interacting boson model configuration mixing and Gogny mean-field energy surfaces [J. E. García-Ramos et al., Phys. Rev. C **89**, 034313 (2014)].

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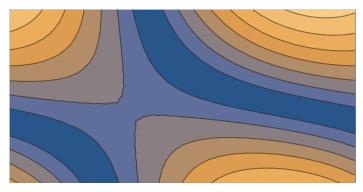
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- General relativity
- Formal aspects of field theory, field theory in curved space
- String theory, quantum gravity, gauge/gravity duality

EDITORS

Erick J. Weinberg Columbia University Urs M. Heller American Physical Society



Impact of correlated magnetic noise on the detection of stochastic gravitational waves: Estimation based on a simple analytical model [Yoshiaki Himemoto and Atsushi Taruya, Phys. Rev. D **96**, 022004 (2017)].

PHYSICAL REVIEW E (PRE)

covering statistical, nonlinear, biological, and soft matter physics

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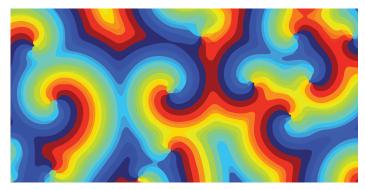
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- Granular materials
- Solid mechanics
- Fluid dynamics
- Plasma physics
- Computational physics

EDITORS

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Weakly and strongly coupled Belousov-Zhabotinsky patterns [Stephan Weiss and Robert D. Deegan, Phys. Rev. E **95**, 022215 (2017)].

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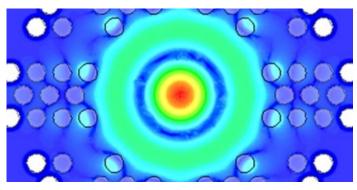
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- Cryogenics and vacuum technology
- Particle-beam sources
- Single-particle dynamics
- Low-energy, multiple-particle dynamics
- Relativistic, multiple-particle dynamics
- Material-beam interaction
- Computing and algorithms

EDITORS

Frank Zimmermann CERN, Switzerland

Debbie Brodbar American Physical Society



High power experimental studies of hybrid photonic band gap accelerator structures [JieXi Zhang et al., Phys. Rev. Accel. Beams 19, 081304 (2016)].

PHYSICAL REVIEW APPLIED (PRApplied)

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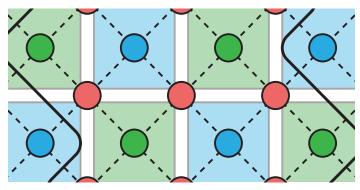
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- Soft matter physics, including granular and complex fluids and active matter

EDITORS

Stephen R. Forrest University of Michigan Julie Kim-Zajonz American Physical Society



Scalable Quantum Circuit and Control for a Superconducting Surface Code [R. Versluis *et al.*, Phys. Rev. Applied **8**, 034021 (2017)].

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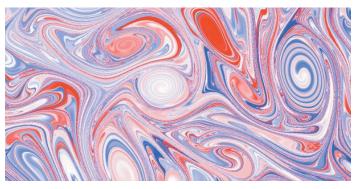
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- Instability, transition, and control
- Interfacial phenomena and flows
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- Multiphase, granular, and particle-laden flows
- Nonlinear dynamical systems
- Transport and mixing
- Turbulent flows
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- Wave dynamics, free surface flows, stratified and rotating flows

EDITORS

John Kim University of California, Los Angeles

Gary Leal University of California, Santa Barbara

Bradley Rubin American Physical Society



Optimal initial condition of passive tracers for their maximal mixing in finite time [Mohammad Farazmand, Phys. Rev. Fluids **2**, 054601 (2017)].

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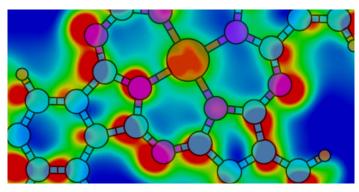
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- Mechanical properties, materials structure, and phase transformations
- Nanostructures, nanocomposites, and nanomaterials

EDITORS

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Electronic charge rearrangement at metal/organic interfaces induced by weak van der Waals interactions [Nicola Ferri et al., Phys. Rev. Materials 1, 026003 (2017)].

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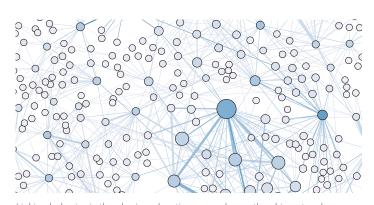
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EDITORS

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Linking behavior in the physics education research coauthorship network [Katharine A. Anderson *et al.*, Phys. Rev. Phys. Educ. Res. **13**, 010121 (2017)].



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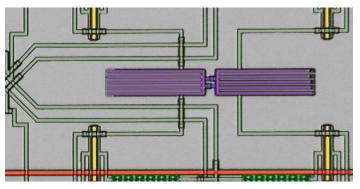


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Widely Tunable On-Chip Microwave Circulator for Superconducting Quantum Circuits [Benjamin J. Chapman et al., Phys. Rev. X 7, 041043 (2017)].

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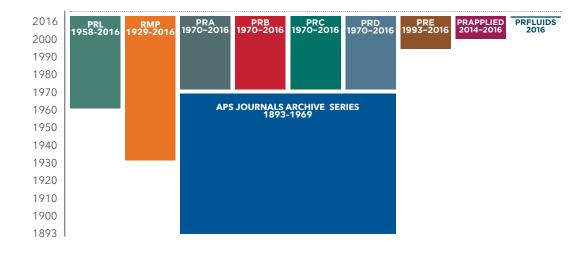
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APS HEADQUARTERS

One Physics Ellipse College Park, MD 20740-3844, USA Tel: +1-301-209-3283

APS EDITORIAL OFFICE

1 Research Road Ridge, NY 11961-2701, USA Tel: +1-631-591-4000

APS SUBSCRIPTION SERVICES

P.O. Box 41
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