2019 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, three of which are open access.

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PRL is the world’s premier physics letter journal and APS’s flagship publication. Since 1958 it has contributed to APS’s mission to advance and diffuse the knowledge of physics by publishing seminal research by Nobel Prize winners and other distinguished researchers in all fields of physics.

PRL publishes short, high-quality reports of the most influential developments and transformative ideas in the full arc of fundamental and interdisciplinary physics. It is distinctive in the depth and breadth of its coverage of the broad subfields of physics. PRL welcomes manuscripts that report on pivotal advances that will influence the research of others.

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

PHYSICAL REVIEW X (PRX)

PRX is an online-only, fully open access journal that places a high value on innovation, quality, and long-term impact. It publishes a select set of papers from all areas of pure, applied, and interdisciplinary physics that have the potential to influence current and future research.

PRX showcases research in core areas of physics that achieves breakthroughs in technology, experiment, and theory. PRX also publishes creative, impactful research that bridges physics with other disciplines. Renowned for its personalized editorial process, PRX brings together authors, editors, and referees to guide each article through the selection process and produce the best possible outcome.

PRX covers the full spectrum of subject areas in physics:

- Acoustics
- Astrophysics
- Atomic and molecular physics
- Biological physics
- Chemical physics
- Complex systems
- Computational physics
- Condensed matter physics
- Cosmology
- Electronics
- Energy research
- Fluid dynamics
- Geophysics
- Gravitation
- Industrial physics
- Interdisciplinary physics
- Light science
- Materials science
- Medical physics
- Metamaterials
- Nanophysics
- Nonlinear dynamics
- Nuclear physics
- Optics
- Optoelectronics
- Particles and fields
- Photonics
- Physical chemistry
- Plasma physics
- Plasmonics
- Quantum science and technology
- Soft matter
- Spintronics
- Statistical physics

RMP is the world’s premier physics review journal and the most highly cited *Physical Review* publication. Written by leading international researchers, RMP’s in-depth essays provide outstanding coverage of a topic and give context and background for current research trends.

Established in 1929, RMP provides an unrivaled venue for authoritative Reviews and Colloquia in all fields of physics. Review articles present the current status of a given topic, with historical background, a critical distillation of research progress, and a summary of possible future developments. Colloquia communicate results at the frontiers of physics, which may impact several subfields.

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

- Applications of physics
- Atomic, molecular, and optical physics
- Biological physics
- Chemical physics
- Condensed matter physics
- Soft matter physics
- Plasma physics and fusion
- Particle-beam physics
- Nuclear physics
- High-energy physics, particles and fields
- Astrophysics
- General physics
- Mathematical physics
- Quantum information
- Computational physics

PRA publishes important developments in the rapidly evolving areas of atomic, molecular, and optical (AMO) physics, quantum information, and related fundamental concepts.

Established in 1970, PRA is the journal of choice to publish research in AMO physics and quantum information. Bridging these traditional and emerging research areas, PRA’s authors and readers benefit from the widespread synergies between these fields.

PRA covers atomic, molecular, and optical physics, foundations of quantum mechanics, and quantum information, including:

- Fundamental concepts
- Quantum information
- Atomic and molecular structure and dynamics; high-precision measurement
- Atomic and molecular collisions and interactions
- 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

PHYSICAL REVIEW B  (PRB)
covering condensed matter and materials physics

PRB is the world’s largest dedicated physics journal and most highly cited journal in condensed matter physics. PRB provides outstanding depth and breadth of coverage, combined with unrivaled context and background for ongoing research by scientists worldwide.

Since 1970, PRB has provided an authoritative venue for high-quality work in established and emerging topics in condensed matter research, making it an essential resource for the field.

PRB covers the full range of condensed matter, materials physics, and related subfields, including:

- Structure and phase transitions
- Ferroelectrics and multiferroics
- Disordered systems and alloys
- Magnetism
- Superconductivity
- Electronic structure, photonics, and metamaterials
- Semiconductors and mesoscopic systems
- Surfaces, nanoscience, and two-dimensional materials
- Topological states of matter


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PHYSICAL REVIEW C (PRC)
covering nuclear physics

PRC is a leading journal in theoretical and experimental nuclear physics, publishing more than two-thirds of the research literature in the field.

Established in 1970, PRC is a trusted, essential resource for nuclear physics researchers, nuclear data aggregators and evaluators, and others who use nuclear science research results. PRC provides a collegial and proactive environment for researchers looking to publish in the Physical Review journals.

PRC covers experimental and theoretical results in all aspects of nuclear physics, including:

- Nucleon-nucleon interaction, few-body systems
- Nuclear structure
- Nuclear reactions
- Relativistic nuclear collisions
- Hadronic physics and QCD
- Electroweak interaction, symmetries
- Nuclear astrophysics

PHYSICAL REVIEW D (PRD)
covering particles, fields, gravitation, and cosmology

PRD is a leading journal in elementary particle physics, field theory, gravitation, and cosmology and is one of the top-cited journals in high-energy physics.

Launched in 1970, PRD is one of the longest-established journals dedicated to serving the high-energy physics community.

PRD covers experimental and theoretical results in all aspects of particle physics, field theory, gravitation, and cosmology, including:

- Particle physics experiments
- Electroweak interactions
- Strong interactions
- Lattice field theories, lattice QCD
- Beyond the standard model physics
- Phenomenological aspects of field theory, general methods
- Gravity, cosmology, cosmic rays
- Astrophysics and astroparticle physics
- General relativity
- Formal aspects of field theory, field theory in curved space
- String theory, quantum gravity, gauge/gravity duality

PRE is a broad and interdisciplinary journal focusing on collective phenomena of many-body systems. As the premier journal in the interrelated areas of statistical, nonlinear, biological, and soft matter physics, PRE covers recent developments in complex fluids, polymers, liquid crystals, and granular materials.

Established in 1993, PRE is distinguished by the breadth of the subject areas it covers and its wide distribution and readership. PRE provides an authoritative venue for high-quality work in traditional and emerging research areas, making it an essential resource for multiple disciplines.

PRE covers a wide range of traditional and interdisciplinary physics topics, including:

- Statistical physics
- Nonlinear dynamics and chaos
- Networks and complex systems
- Biological physics
- Polymers
- Colloids, complex fluids, and active matter
- Liquid crystals
- Films and interfaces
- Granular materials
- Solid mechanics
- Fluid dynamics
- Plasma physics
- Computational physics

PRAB covers the full spectrum of accelerator science, technology, and applications, including subsystems, component technologies, beam dynamics, and the design, operation, and improvement of scientific and industrial accelerators of all types.

PRAB is a fully open access journal that is funded by contributions from industrial sponsors, national and international laboratories, universities, and other sources. This generous support enables PRAB to be provided without charge to both authors and readers.

PRAB covers all topics in accelerator science, applications, and technology, including:

- Low- and intermediate-energy accelerators
- Pulsed-power accelerators
- Synchrotron radiation and free-electron lasers
- High-energy accelerators and colliders
- New acceleration techniques
- Design studies
- Radio frequency calculations and technology
- Magnet calculations and technology
- Beam control, diagnostics, and feedback
- Particle and radiation detectors
- Targets, collimators, and beam dumps
- Accelerator materials and surfaces
- 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

*Calculated under former title, Physical Review Special Topics - Accelerators and Beams (PRST-AB). The first metrics for PRAB under its new name are expected in 2019.
PRApplied publishes high-quality papers that bridge the gap between engineering and physics, and between current and future technologies. PRApplied welcomes papers from both the engineering and physics communities, in academia and industry.

PRApplied publishes research with strong and clear ties to applications, and that offers fresh insight into physical phenomena. The editors encourage scientists and engineers engaged in applied research to consider this journal their home for stimulating, scholarly publications and discussion.

**PRApplied focuses on topics including:**

- Biophysics, bioelectronics, and biomedical engineering
- Device physics
- Electronics
- Technology to harvest, store, and transmit energy, focusing on renewable energy technologies
- Geophysics and space science
- Industrial physics
- Magnetism and spintronics
- Metamaterials
- Microfluidics
- Nonlinear dynamics and pattern formation in natural or manufactured systems
- Nanoscience and nanotechnology
- Optics, optoelectronics, photonics, and photonic devices
- Quantum information processing, both algorithms and hardware
- Soft matter physics, including granular and complex fluids and active matter

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PRFluids is dedicated to publishing innovative research that significantly advances the fundamental understanding of fluid dynamics. PRFluids embraces both traditional fluid dynamics topics and newer areas.

PRFluids is strongly supported by APS’s Division of Fluid Dynamics (DFD). The DFD’s François Frenkiel Award for fluid mechanics is awarded to a young investigator published in PRFluids to recognize their contribution to the field. PRFluids also publishes invited papers from the DFD meeting, and winning entries from the Gallery of Fluid Motion.

PRFluids covers all aspects of fluid dynamics research, including:

- Biological and biomedical flows
- Combustion fluid mechanics and reacting flows
- Complex and non-Newtonian fluids
- Compressible and rarefied flows, kinetic theory
- Convection
- Drops, bubbles, capsules and vesicles
- Electrokinetic phenomena, electrohydrodynamics, and magnetohydrodynamics
- Geophysical, geological, urban and ecological flows
- Instability, transition, and control
- Interfacial phenomena and flows
- Laminar and viscous flows
- Micro- and nanofluidics
- Multiphase, granular, and particle-laden flows
- Nonlinear dynamical systems
- Transport and mixing
- Turbulent flows
- Vortex dynamics
- Wave dynamics, free surface flows, stratified and rotating flows

Image: Optimal initial condition of passive tracers for their maximal mixing in finite time [Mohammad Farazmand, Phys. Rev. Fluids 2, 054601 (2017)]
PRMaterials is a broad-scope journal publishing high quality research on materials. The journal serves the multidisciplinary community working on the prediction, synthesis, processing, structure, properties, and modeling of a wide range of materials.

PRMaterials provides a publication and reference venue to the expanding community of physicists, materials scientists, chemists, engineers, and scientists in related disciplines, carrying out high-quality, original research in materials.

PRMaterials covers a wide range of topics on materials research, including:

- Prediction, synthesis, design, and modeling of materials
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- Thin films, interfaces, surfaces, and heterostructures
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- Metamaterials and plasmonic, optical, and photonic materials
- Materials for energy harvesting, storage, and generation
- Glasses and amorphous materials
- Soft materials, polymers, self-assembly, biomaterials
- Electronic materials, semiconductors, metals, and dielectrics, including organics
- Topological materials
- Mechanical properties, materials structure, and phase transformations
- Nanostructures, nanocomposites, and nanomaterials

PRPER covers the full array of experimental and theoretical research relating to the teaching and learning of physics and astronomy. PRPER is the only fully open access journal for physics education research.

PRPER is sponsored jointly by APS, the American Association of Physics Teachers, and the APS Forum on Education. PRPER publishes detailed research articles, review articles, and replication studies. Descriptions of the development and use of new assessment tools, presentation of research.

PRPER covers all educational levels, from elementary through graduate education. All topics in experimental and theoretical physics education research are accepted, including, but not limited to:

- Educational policy
- Instructional strategies, and materials development
- Research methodology
- Epistemology, attitudes, and beliefs
- Learning environment
- Scientific reasoning and problem solving
- Diversity and inclusion
- Learning theory
- Student participation
- Faculty and teacher professional development

*Calculated under former title, Physical Review Special Topics - Physics Education Research (PRST-PER). The first metrics for PRPER under its new name are expected in 2019.

Physics is an online publication that highlights results in the Physical Review journals with news and opinion pieces. Researchers, journalists, and Physics staff writers come together to tell the stories behind significant findings, with clear and engaging explanations that don’t rely on jargon or specialized knowledge.

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