

RCUK REVIEW OF UK PHYSICS – CITATION ANALYSIS

Caveats:

It is assumed that journals such as Nature, Science, and Physical Review Letters are automatically included for the vast majority of sub-areas. However, we have decided to list some other general/high-impact journals, such as Applied Physics Letters and the Nature variants.

In addition, most of the categories are too broad for just 4/5 journals. For others, like nuclear physics, the situation is clearer cut, but one needs to realise that the condensed matter categories are too large to be comparable with other sub-areas. There are also niche communities doing high-level work that frequently appears in general journals (e.g. PRL, etc.) but whose standard journals are quite specialised. Furthermore, some high-impact journals frequently used by certain sub-areas do not appear in Thomson Scientific's ISI Web of Knowledge.

List of journals (IOPscience subject categories):

The journals have been 'crudely' ranked in order of nominations (figure in brackets) received from the academic physics and astronomy community, and then placed in alphabetical order.

1. Accelerators, beams & electromagnetism;

- Nuclear Instruments and Methods in Physics Research A [3]
- IEEE Transactions on Nuclear Science
- Journal of Vacuum Science and Technology
- Particle Accelerator Conferences (proceedings published by JACoW; www.JACoW.org)
- Physical Review Special Topics: Accelerators and Beams

2. Astrophysics & astroparticles;

- Astronomy and Astrophysics [10]
- Astrophysical Journal [10]
- Monthly Notices of the Royal Astronomical Society [10]
- Astronomical Journal [7]
- Astroparticle Physics [4]
- Astrophysical Journal Letters [2]
- Physical Review D [2]
- Publications of the Astronomical Society of the Pacific [2]
- Solar Physics [2]
- Annual Review of Astronomy and Astrophysics
- Journal of Cosmology and Astroparticle Physics
- Physics Letters B

NB: For 'Planetary science' & 'Upper atmosphere, ionosphere and space physics':

- Annales Geophysicae [3]
- Geophysical Research Letters [3]
- Icarus [3]
- Journal of Geophysical Research – Space Physics [3]
- Meteoritics and Planetary Science [2]
- Planetary and Space Science [2]
- Radio Science [2]
- Advances in Space Research
- Astrophysics and Space Science
- Space Science Reviews

3. Atomic & molecular physics;

- Physical Review A [6]
- Journal of Physics B: Atomic, Molecular and Optical Physics [5]
- New Journal of Physics [3]
- Journal of Chemical Physics [2]
- Applied Physics Letters
- Chemical Physics Letters
- Europhysical Journal D
- Journal of Modern Optics
- Journal of the Optical Society of America A and B
- Nature Physics

4. Biological physics;

- Biophysical Journal [7]
- Proceedings of the National Academy of Sciences [5]
- Physical Review E [3]
- Biomacromolecules [2]
- European Physical Journal E - Soft Matter [2]
- Journal of Structural Biology [2]
- Physical Biology [2]
- Bulletin of Mathematical Biology
- IET Systems Biology
- Interface
- Journal of the American Chemical Society
- Journal of Biological Physics
- Journal of Biomedical Optics
- Journal of Chemical Physics
- Journal of Theoretical Biology
- Macromolecules
- Nature Materials
- Polymer
- Soft Matter
- SPIE

5. Chemical physics & physical chemistry;

- Journal of Chemical Physics [5]
- Journal of Physical Chemistry (A, B and C) [5]
- Chemical Physics [3]

- Chemical Physics Letters [3]
- Journal of the American Chemical Society [2]
- Langmuir [2]
- Advanced Materials
- Angewandte Chemie International Edition
- Discussions of the Faraday Society
- Europhysics Letters
- Physical Chemistry

6. Computational physics;

- Computer Physics Communications [2]
- Journal of Chemical Physics [2]
- Physical Review B [2]
- Journal of Physical Chemistry C
- Physica B
- Physica Status Solidi (B)

7. Electronics & devices;

- Applied Physics Letters [4]
- IEEE Electron Device Letters [2]
- Electronics Letters
- Europhysics Letters
- IEEE Journal Selected Topics in Quantum Electronics
- IEEE Transactions on Electron Devices
- Journal of Applied Physics
- Journal of Lightwave Technology
- Nature Nanotechnology

NB: The International Electron Device Meeting (IEDM) conference is bigger than any journal for semiconductor devices as many big companies do not publish in journals and only present at conferences.

8. Education & communication;

- American Journal of Physics [3]
- European Journal of Physics [2]
- Journal of the Public Understanding of Science
- Physics Education

9. Environmental & earth science;

- Advances in Water Resources
- Agricultural and Forest Meteorology
- Annals of Glaciology
- Atmospheric Research
- Boundary Layer Meteorology
- Climate Dynamics
- International Journal of Heat and Mass Transfer
- Journal of Aerosol Science
- Journal of Applied Meteorology
- Journal of Atmospheric and Solar-Terrestrial Physics

- Journal of Biometeorology
- Journal of Climate
- Journal of Glaciology
- Journal of Physical Oceanography
- Monthly Weather Review
- Water Resources Research

NB: Other sub-areas:

a. Solid Earth Geophysics

- Geophysical Journal International [2]
- Geophysical Research Letters [2]
- Journal of Geophysical Research [2]
- Bulletin of the Seismological Society of America
- Earth and Planetary Science Letters

b. Applied Geophysics

- Geophysical Prospecting [2]
- Geophysics [2]
- Exploration Geophysics
- Journal of Applied Geophysics
- Journal of Environmental and Engineering Geophysics
- Pure and Applied Geophysics

c. Atmospheric Environment

- Atmospheric Environment
- Journal of Atmospheric Sciences
- Quarterly Journal of the Royal Meteorological Society
- Tellus

d. Environmental Distribution

- Journal of Environmental Radioactivity
- Journal of Radiological Protection
- Science of the Total Environment

10. Fluid dynamics;

- Physical Review E [2]
- Journal of Fluid Mechanics
- Physica D
- Physics of Fluids
- Proceedings of the Royal Society A

11. Gravitation & cosmology;

- Classical and Quantum Gravity [4]
- Astrophysical Journal [3]
- Journal of Cosmology and Astroparticle Physics [3]
- Physical Review D [3]
- Astronomy and Astrophysics [2]
- Monthly Notices of the Royal Astronomical Society [2]
- Physics Letters B [2]
- Astronomical Journal
- General Relativity and Gravitation
- Living Reviews in Relativity

12. Instrumentation & measurement;

- Review of Scientific Instruments [4]
- Measurement Science and Technology [2]
- Nuclear Instruments and Methods in Physics Research [2]
- Optics Letters [2]
- Infrared Physics and Technology
- Journal of Instrumentation
- Journal of the Optical Society of America A
- Metrologia
- Nature Methods
- Optics Express
- Publications of the Astronomical Society of the Pacific

13. Condensed matter: electrical, magnetic & optical;

- Physical Review B [12]
- Nature Materials [9]
- Applied Physics Letters [7]
- Journal of Physics: Condensed Matter [6]
- Journal of Applied Physics [3]
- Europhysics Letters [2]
- Journal of Chemical Physics [2]
- Nature Physics [2]
- Advanced Materials
- Europhysics Journal E
- Journal of Alloys and Compounds
- Journal of Magnetism and Magnetic Materials
- Journal of the Optical Society of America
- Journal of the Physics and Chemistry of Solids
- Journal of Physics C: Solid State Physics*
- Optics Express
- Optics Letters
- Physical Review E

NB: * No longer published

14. Condensed matter: structural, mechanical & thermal;

- Nature Materials [5]
- Physical Review B [5]
- Journal of Physics: Condensed Matter [3]
- Applied Physics Letters [2]
- Journal of Chemical Physics [2]
- Physica B [2]
- Physical Review E [2]
- Acta Metallica Materiala
- Advanced Materials
- Carbon
- Journal of Alloys and Compounds
- Journal of Applied Physics
- Journal of Low Temperature Physics

- Materials Science and Engineering

15. Mathematical physics[^];

- Communications in Mathematical Physics [3]
- Journal of Physics A [3]
- Physical Review A [3]
- Journal of Mathematical Physics [2]
- Journal of Statistical Physics [2]
- Physical Review E [2]
- Journal of Geometry and Physics
- Letters in Mathematical Physics
- Physica A
- Reviews in Mathematical Physics

NB: [^] We assume this category will include theoretical physics. However, it would be more appropriate for it to be a separate category.

16. Medical physics;

- IEEE Transactions on Medical Imaging [2]
- Magnetic Resonance in Medicine [2]
- Medical Physics [2]
- Physics in Medicine and Biology [2]
- Annals of Biomedical Engineering
- European Journal of Nuclear Medicine and Molecular Imaging
- IEEE Transactions on Biomedical Engineering
- Imaging
- Journal of Nuclear Medicine
- Medical Image Analysis
- Physiological Measurement
- Radiology

NB: Medical physicists tend to publish in high-impact medical journals, such as the Lancet, etc.

17. Nanoscale science & low-D systems;

- Nano Letters [7]
- Applied Physics Letters [6]
- Nature Materials [6]
- Nature Nanotechnology [5]
- Advanced Materials [4]
- Nanotechnology [3]
- Small [3]
- Langmuir [2]
- Carbon
- Journal of Applied Physics
- Journal of Physics: Condensed Matter

18. Nuclear physics;

- Nuclear Physics A [5]
- Physical Review C [5]

- European Physical Journal A [4]
- Journal of Physics G: Nuclear and Particle Physics [4]
- Physics Letters B [4]
- Nuclear Instruments and Methods in Physics Research [2]

19. Optics, quantum optics & lasers;

- Optics Letters [8]
- Journal of the Optical Society of America A and B [6]
- Optics Express [6]
- Nature Photonics [5]
- Physical Review A and B [5]
- Journal of Modern Optics [3]
- Journal of Optics A: Pure and Applied Optics [3]
- Applied Optics [2]
- Applied Physics B [2]
- Applied Physics Letters [2]
- Optics Communications [2]
- IEEE Journal Selected Topics in Quantum Electronics
- IEEE Photonics Technology Letters
- Journal of Physics A: Mathematical and Theoretical
- Nature Physics
- New Journal of Physics
- Physical Review E

20. Particle physics & field theory;

- Physical Review D [7]
- Journal of High Energy Physics [5]
- Nuclear Physics B [5]
- Physics Letters B [5]
- European Physical Journal C [4]
- Nuclear Instruments and Methods in Physics Research [2]
- Journal of Physics G: Nuclear and Particle Physics

21. Plasma physics;

- Plasma Physics and Controlled Fusion [3]
- Physics of Plasmas [2]
- Physical Review E [2]
- Plasma Sources Science and Technology [2]
- Applied Physics Letters
- IEEE Transactions on Plasma Science
- Journal of Applied Physics
- Journal of Nuclear Materials
- Journal of Vacuum Science and Technology

22. Quantum gases, liquids & solids;

No responses.

23. Quantum information & quantum mechanics;

- Physical Review A [3]
- Applied Physics Letters [2]
- Physical Review B [2]
- Foundations of Physics
- Journal of Applied Physics
- Journal of Physics A: Mathematical and Theoretical
- Journal of Physics: Condensed Matter
- Journal of Statistical Physics
- Nature Materials
- Nature Physics
- Quantum Information Computing

24. Semiconductors;

- Applied Physics Letters [5]
- Physical Review B [5]
- Nature Materials [3]
- IEEE Journal Selected Topics in Quantum Electronics [2]
- Journal of Applied Physics [2]
- Semiconductor Science and Technology [2]
- Advanced Materials
- Electronics Letters
- Journal of Physics: Condensed Matter
- Nature Physics
- New Journal of Physics
- Optics Letters
- Physical Review A

25. Soft matter, liquids & polymers;

- European Physical Journal E - Soft Matter [3]
- Macromolecules [3]
- Physical Review E [3]
- Soft Matter [3]
- Advanced Materials [2]
- Langmuir [2]
- Europhysics Letters
- Journal of Applied Polymer Science
- Journal of Chemical Physics
- Journal of Fluid Mechanics
- Journal of Materials Chemistry
- Journal of Polymer Science, Polymer Physics Edition
- Journal of Rheology
- Nature Materials
- Physics of Fluids
- Polymer

26. Statistical physics & nonlinear systems;

- Physical Review E [3]

- Journal of Physics A: Mathematical and Theoretical [2]
- Journal of Statistical Physics [2]
- Nonlinearity [2]
- Physica A [2]
- Fluctuation and Noise Letters
- International Journal of Bifurcation and Chaos
- Journal of Statistical Mechanics: Theory and Experiment
- Physica D
- Physical Review B
- Physics Letters A

27. Superconductivity; and

- Physical Review B [3]
- Applied Physics Letters [2]
- Journal of Applied Physics
- Journal of Low Temperature Physics
- Nature Materials
- Nature Physics
- Physica B
- Superconductor Science and Technology

28. Surfaces, interfaces & thin films.

- Physical Review B [6]
- Langmuir [4]
- Surface Science [4]
- Journal of Chemical Physics [3]
- Applied Physics Letters [2]
- Applied Surface Science [2]
- Journal of Physical Chemistry (B and C) [2]
- Nano Letters [2]
- Thin Solid Films [2]
- Advanced Materials
- Journal of Applied Physics
- Journal of Physics: Condensed Matter
- Journal of Physics D: Applied Physics
- Nature Materials
- Nature Nanotechnology
- Physical Review E

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