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;
   - 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]
   - Astroparticle Physics [4]
   - Physical Review D [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]
- Planetary and Space Science [2]
- Radio Science [2]
- Advances in Space Research
- Astrophysics and Space Science
- Space Science Reviews

3. Atomic & molecular physics;

- 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]
- 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]
6. **Computational physics;**

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

7. **Electronics & devices;**

- 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]
- 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]
   - 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]
   - Journal of Cosmology and Astroparticle Physics [3]
   - Physical Review D [3]
   - Astronomy and Astrophysics [2]
   - Astronomical Journal
   - General Relativity and Gravitation
   - Living Reviews in Relativity
12. Instrumentation & measurement;

- Measurement Science and Technology [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]
- 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;

- 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
15. Mathematical physics^:

- Communications in Mathematical Physics [3]
- Physical Review A [3]
- Journal of Mathematical 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]
- 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:

- Physical Review C [5]
• Journal of Physics G: Nuclear and Particle Physics [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]
• Applied Optics [2]
• Applied Physics B [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]
• Nuclear Physics 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]
- 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;

- Nature Materials [3]
- IEEE Journal Selected Topics in Quantum Electronics [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;

- 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]
27. Superconductivity; and

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


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

TSP
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