

Exercise 2

- Conduct a survey as comprehensive as possible of at least 10 journals that publish astronomy- or astrophysics-related research results. Which of them have associated publications, e.g., letters or supplements?
- Select a handful of ‘**core**’ journals (definition?), and summarize how often each journal publishes, in what language, by what publisher.

Assignment-2

11 March 2024

1 Astronomy Journals

Which ten?

Of the ten Astronomy Journals I have surveyed, five of them have associated publications, which may include letters, supplements, or companion series. The above-mentioned journals are:

1. The Astrophysical Journal Supplement Series (ApJS)
2. Astronomy & Astrophysics Supplement Series (A&A Supplement)
3. Publications of the Astronomical Society of the Pacific (PASP)
4. Monthly Notices of the Royal Astronomical Society (MNRAS)
5. Living Reviews in Solar Physics

2 Core Journals

The “core journals” are such publications which are considered as publishing the most relevant findings, and central concepts and are highly respected in the particular discipline. They are widely read by researchers and used for further development in the field. Some of the core journals in Astronomy and Astrophysics are given below:

1) **The Astronomy and Astrophysics Review** is a core journal published quarterly by Springer-Verlag GmbH Germany, part of Springer Nature. The journal is published in English language.

2) **Living Reviews in Solar Physics** is a peer-reviewed scientific journal published in English by Springer Science+Business Media. It doesn't have a fixed frequency for publication.

3) **Nature Astronomy** is a monthly journal published by Nature Portfolio in the English language.

4) **Publications of the Astronomical Society of the Pacific (PASP)** is a monthly journal published in English by the Astronomical Society of the Pacific.

5) **The Astronomical Journal (AJ)** is a monthly journal published by IOP for the American Astronomical Society. It is published in the English language.

Homework II

0.1. Exercise

Conduct a survey, as comprehensive as possible, of at least 10 journals that publish astronomy or astrophysics related research results. Which of them have associated publications, e.g., letters or supplements?

1. Nature Astronomy

Nature is an international journal including all aspects of scientific discoveries, thus, Nature has the highest impact factor of any journal. Nature Astronomy is one of the portfolios of Nature, providing astronomers to publish the research related to astronomy, such as astrophysics, planetary sciences, cosmology.

2. The Astronomical Journal (AJ)

AJ is an international journal that publishes astronomy research, accentuating the results proved from observations.

3. Astronomy & Astrophysics (A&A)

A&A is an international journal which publishes astronomy and astrophysics papers.

4. The Astrophysical Journal (ApJ)

ApJ provides a platform for astronomers to publish their recent research, discoveries, theories, and observations.

5. The Astrophysical Journal Letters (ApJL)

ApJL allows astronomers to promptly publish short notices of their important research.

6. The Astrophysical Journal Supplement (ApJS)

ApJS allows astronomers to publish large data or calculations of their important research.

7. Monthly Notices of the Royal Astronomical Society (MNRAS)

MNRAS allows astronomers publishing their research covering all criteria of astronomy and astrophysics.

8. Monthly Notices of the Royal Astronomical Society: Letters (MNRAS Letters)

MNRAS Letters accommodates astronomers publishing their research immediately, in a form of shorts notices of their significant research.

9. The Publications of the Astronomical Society of the Pacific (PASP)

PASP publishes research covered astronomy and astrophysics, especially for the innovations in technical instruments, data analysis, and software.

10. Space Science Journal (SSJ)

The SSJ provides publishing of scientific work in all fields of space science, e.g. planetary exploration, mission analysis, solar system, satellites and atmospheres.

Note 1. American Astronomical Society (AAS) owns and operates its journals, The AJ, ApJ, ApJL, ApJS, and The Planetary Science Journal.

0.2. Exercise

Select a handful of 'core' journals (definition?), and summarize how often each journal publish, in what language, by what publisher?

See Table 1 on next page.

Table 1 The information of Journals.

| journal | language | publish | publisher | impact factor (2022) | H index |
|------------------|----------|---------|-------------------------|----------------------|---------|
| Nature Astronomy | English | monthly | Nature Portfolio | 12.1 | 71 |
| AJ | English | monthly | IOP Publishing | 5.3 | 259 |
| A&A | English | monthly | EDP Sciences | 6.5 | 320 |
| ApJ | English | 3/month | IOP Publishing | 4.9 | 462 |
| MNRAS | English | 36/year | Oxford University Press | 4.8 | 357 |

1. Impact factor is a remark to evaluate how important of a journal in its field, measuring the frequency with which the "average article" in a journal has been cited within a particular time period (e.g. previous two years).
2. H index is defined as the given author/journal has published at least h papers that have each been cited at least h times.
3. The definition of "core" journals: Impact factor and H index might be one of the important standard. These journals are

Table 1 follows,

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1 Astronomical Journals Survey

1.1 Astronomy and Astrophysics (A & A)

Astronomy and Astrophysics Review covers all areas including cosmic ray physics, solar system studies, astrophysics, relevant laboratory or particle physics, instrumentation, computational or statistical methods, and more. According to Schimago Journal Ranking (SJR) is 9.937, which is the top SJR ranking journal in 2022, and its H index is 74.

A&A, 683, L8 (2024)
https://doi.org/10.1051/0004-6361/202348900
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Astronomy
&
Astrophysics

LETTER TO THE EDITOR

A newborn active galactic nucleus in a star-forming galaxy

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Received 11 December 2023 / Accepted 29 February 2024

2 Core journal

According to the google scholar top publications ranking based on their h5-index, the top 5 journals in astronomy and astrophysics are The Astrophysical Journal (ApJ), Monthly Notices of the Royal Astronomical Society (MNRAS), Astronomy & Astrophysics (A & A), Journal of Cosmology and Astroparticle Physics (JCAP), Nature Astronomy. The h5 index of these journals are 169, 160, 136, 106, and 92 respectively.

Categories > Physics & Mathematics > Astronomy & Astrophysics

| Publication | h5-index | h5-mean |
|--|----------|---------|
| 1. The Astrophysical Journal | 169 | 234 |
| 2. Monthly Notices of the Royal Astronomical Society | 160 | 212 |
| 3. Astronomy & Astrophysics | 136 | 190 |
| 4. Journal of Cosmology and Astroparticle Physics | 106 | 151 |
| 5. Nature Astronomy | 92 | 118 |

However, my personal preference would be Icarus, because it is the top planetary science journal. It publishes monthly and written in English, both American or British usages is accepted, but not a mixture of these. It is officially endorsed by the American Astronomical Society's Division for Planetary Sciences (DPS). The journal was founded in 1962, and became affiliated with the DPS in 1974. Its original owner and publisher was Academic Press, which was purchased by Elsevier in 2000. Elsevier owns several journals, such as Planetary and Space Science, Advances in Space Research, Astroparticle Physics and so on.

Exercise:

- Conduct a survey as comprehensive as possible of at least 10 journals that publish astronomy- or astrophysics-related research results. Which of them have associated publications, e.g., letters or supplements?
- Select a handful of ‘core’ journals (definition?), and summarize how often each journal publishes, in what language, by what publisher.
- Compare the ‘style’ of the core journals. Note the layout of the title, abstract, references, etc. (e.g., ApJ vs A&A)
- Zoom in to one journal and browse through one recent paper of your choice. What is it about? By whom?
- Identify one off-core journal. Does our library subscribe to it.
- What is the *Science Citation Index*? What is the *Impact Factor*?
What is the *Open Access* policy? *PLOS One*?

