

Aerospace Journals – Metrics & Ranking

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An evaluation with the aim to lead to a ranking for aerospace journals needs

1. a selection method for journals to take part in the evaluation of aerospace journals
2. a selection of metrics for the evaluation of journals
3. a method with which the results of the selected metrics can be combined to a final score
4. a ranking of the journals based on the final score

1 Selection of Journals

Obviously the selection of the journals is critical. Journals not selected can not score in the ranking. Many journals have a relevance to "aerospace". Considered are here predominantly only those journals with a general focus on aeronautical engineering or space engineering. Not considered are more general journals (e.g. about engineering) that may also have a substantial portion of aerospace papers. Also not considered are more specialized journals in particular fields within aerospace e.g. journals specialized in turbo machinery or fluid dynamics.

The selection of considered aerospace journals started with journals from existing Aerospace Journal Rankings:

- Google Scholar
- SCOPUS (CWTS and SJR)
- Journal Guide (JG)
- University of Illinois (U)

All 20 journals from Google Scholar's ranking were considered (this also caused the inclusion of one magazine and three conferences). All other journal rankings had to be weeded out, because many included journals did just not make sense here. Not taken were:

- journals not actively publishing anymore
- journals not publishing in English
- journals only working in print with not even a journal web page
- journals too general or too specialized inside or outside of aerospace (see above).

Not covered by any of the above selection methods, but covered anyhow are some more journals:

- for the Impact Factor and SNIP
- only for the Impact Factor
- for the free Open Access option

It is acknowledged that every such selection is in the end subjective. This is the selection that made sense to me. Certainly, the list could be weeded out further e.g. by eliminating magazines and conferences.

Metrics, Final Score, and Ranking of Journals

These three indexing **metrics** were selected:

- Impact Factor
- Google Scholar h5-Index
- SNIP from SCOPUS

All journals were ranked according to these three metrics. A journal without a value in the related metric was assigned the next highest integer. E.g. if the ranking runs up to 20 (Google) all journals without a Google ranking were assigned the ranking 21. The average of these three journal rankings is the (overall) index – i.e. the **final score**. A ranking in accordance with the final score gives the **Aerospace Journal Ranking**. The ranking is based only on available information on the WWW. This has the advantage that input data can be checked by everyone. Also not considered are hidden journal rankings from the Journal Citation Reports.

Table 1: The Top 5 from the Aerospace Journal Ranking (2015)

| Rank | Index | Journal Name | Publisher | IF | h5-Index | SNIP |
|-------------|--------------|--|------------------|-----------|-----------------|-------------|
| 1 | 2,7 | Progress in Aerospace Sciences | Elsevier | 2,540 | 25 | 3,89 |
| 2 | 3,0 | Journal of Guidance Control and Dynamics | AIAA | 1,291 | 36 | 2,43 |
| 3 | 5,3 | AIAA Journal | AIAA | 1,207 | 34 | 1,69 |
| 4 | 5,7 | Journal of the American Helicopter Society | AHS | 0,796 | --- | 3,33 |
| 5 | 6,0 | Acta Astronautica | Elsevier | 1,122 | 29 | 1,71 |

Full table available: <http://L2.dglr.de>

Results and Discussion

The metrics selected are based on number of citations. Number of citations may not correlate well with journal quality, but is the best that can be done without reading an evaluation articles. Journal prestige can not be measured easily and is also not considered. The three selected metrics – each by themselves – yield quite different rankings of the selected journals. For this reason, it may be worth the effort to combine three different metrics. US American journals dominate the market and also this journal ranking. Generally, there are still few Open Access journals available. This is also reflected in this journal ranking.