AIRCRAFT DESIGN AND SYSTEMS GROUP (AERO)

Aerospace Journals – Metrics & Ranking

DGLR - Top 40 - Aerospace Journal Ranking

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Abstract

The current discussions about publication ethics, impact factor, Google, and Open Access cause much confusion. With respect to aerospace journals, a listing of parameters and a ranking may be the first step to understand available options for authors and could guide them to where to publish. Journals with a general focus on aeronautical engineering or space engineering were selected to take part in the ranking. Journals were selected from existing aerospace journal rankings e.g. Google Scholar and Scopus (CWTS and SJR). These three metrics were selected: Impact Factor, Google Scholar h5-Index, SNIP (Source Normalized Impact per Paper) from Scopus. The average of these three journal rankings was the base for the final score and the so called "DGLR – Top 40 – Aerospace Journal Ranking". The ranking is named after the German Society for Aeronautics and Astronautics (DGLR) because this is the place selected to publish the results prominently (http://l2.dglr.de). The Journal "Progress in Aerospace Science" was ranked number one in this year's ranking. It was observed that US American journals dominate the market and also this journal ranking. There are only few Open Access journals available. This is especially true for the top 40 in this journal ranking. The "DGLR – Top 40 – Aerospace Journal Ranking" could be updated with newly available data in June each year!
Background

The current discussions about publication ethics, impact factor, Google, and Open Access cause much confusion.

With respect to aerospace journals, a listing of parameters and a ranking may be the first step to understand available options for authors.
Research Questions

1. What is a suitable method for selection of journals to take part in the evaluation of aerospace journals?
2. What are suitable metrics for the evaluation of journals?
3. How can several metrics be combined to a final score and ranking of the journals?
4. How can the results best be distributed and published?
Selection of Journals

- Predominantly only journals with a general focus on aeronautical engineering or space engineering are selected.
- Not considered are too general journals (e.g. about engineering) that may also have a substantial portion of aerospace papers.
- Not considered are more specialized journals in particular fields within aerospace e.g. journals specialized in turbo machinery or fluid dynamics.
- Journals are selected from existing Aerospace Journal Rankings:
  * Google Scholar
  * Scopus (CWTS and SJR)
  * Journal Guide
  * University of Illinois
- All 20 journals from Google Scholar’s ranking are considered.
- Journals are selected not covered by any of the above selection methods,
  * for the Impact Factor and/or the SNIP,
  * for the (free) Open Access option.
Selection of Metrics

These three metrics were selected:
- Impact Factor
- Google Scholar h5-Index
- SNIP (Source Normalized Impact per Paper) 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 rank 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 Top 10 Journals

Calculating the final score:

21,000 is assigned because the journal has no h5-Index from Google Scholar.

The average of the three journal rankings is calculated e.g. for the top journal:

2.7 = (1 + 6 + 1) / 3
Results and Discussion

Please find the detailed results online @ DGLR: http://L2.DGLR.DE
Formats: HTML, Excel, PDF

- Selected metrics are based on number of citations.
- Article quality and journal quality are not directly evaluated.
- Journal prestige is not considered – it can not be measured.
- The three selected metrics – each by themselves – yield quite different rankings of the selected journals. For this reason, it was worth the effort to combine three different metrics and to calculate an average.
- US American journals dominate the market and also this journal ranking.
- There are only few Open Access journals available. This is especially reflected among the top 40 in this journal ranking.

- The "DGLR – Top 40 – Aerospace Journal Ranking" could be updated with new available data in June each year!