

THE “ASTRONOMY & ASTROPHYSICS” JOURNAL: ORIGIN, PURVIEW, AND ETHICAL REQUIREMENTS

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Abstract. We provide a brief presentation¹ of *Astronomy & Astrophysics*, the youngest core astronomy journal, focusing mainly on its scope and the ethical conduct expected from authors.

European astronomers first contemplated the possibility of establishing an international journal devoted to publishing the results of their research in the wake of ESO's creation. At that time, there were a number of national journals devoted to publishing national research in their country's own language, as well as several observatory publications where the observational data were archived. The United Kingdom had a long-established journal, the *Monthly Notices of the Royal Astronomical Society (MNRAS)*, which at that time mainly served the astronomers of the Royal Astronomical Society². By the end of the 1950s, frustration was running high among European astronomers because their work had very little impact outside their own countries. *Astronomy & Astrophysics (A&A)* was founded in 1969 to remedy this situation. Stuart Pottasch, who with Jean-Louis Steinberg was a major proponent for merging various national astronomy journals into a single international one, has summarized the early history of A&A in Pottasch (1999 & 2011).

A&A belongs to the astronomers of the countries that sponsor its operations through modest annual contributions of the national agencies that fund astronomy. The sponsoring countries form the A&A consortium. They

¹This text is based on the more detailed presentation of A&A given in Bertout (2011).

²MNRAS has since then become an international journal with two-thirds of its contents originating outside the UK.

subsidize and run the Journal's operations, in return for which authors from these countries are not charged for publishing in A&A. Each of the sponsoring countries elects one representative to the A&A Board of Directors, the owning and governing body of the Journal. The Directors in turn appoint the A&A Editors, who are responsible for the contents of the Journal and are accountable to the Board.

Over the years, A&A has grown to become one of the largest astronomy Journal (with currently more than 20,000 pages per year) serving researchers from more than sixty countries. Twenty-four of them currently sponsor the Journal; these are not only European but also South American. The current sponsors are Argentina, Austria, Belgium, Brazil, Bulgaria, Chile, Croatia, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Lithuania, the Netherlands, Poland, Portugal, the Slovak Republic, Spain, Sweden, and Switzerland.

A&A is a wide-ranging journal that publishes new results of astronomical research, regardless of the technique used to obtain them, and it accepts papers from any origin; i.e., it is not restricted to serving the sponsoring countries of the Journal. Papers published in A&A should present new astronomical results or ideas of sufficient interest to the community as concisely as possible, but comprehensive enough to allow for duplicating the results by others.

In contrast to other astronomy journals, A&A uses sections to order the published papers. Each section corresponds to a broad scientific area of astronomy or astrophysics to help the reader find the papers that match her scientific interest in the table of contents more easily. The main sections deal with stellar astrophysics and Galactic structure (25% of the contents), cosmology and extragalactic astronomy (25%), interstellar medium studies (13%), solar physics and planetary sciences (10% each). As it turns out, the division into sections allows for a natural and progressive transition to online-only publication of the Journal. The sections dealing with astronomical instrumentation, data and catalogs, numerical methods and codes, as well as atomic and molecular data, are published online only, as are the A&A Letters to the Editor. These sections are also in full open access without any embargo time. The two reasons behind this policy are to provide maximum visibility to those sections that are of interest to a relatively wide part of the community and to promote online publication.

Like other refereed journals, A&A requires its authors to adhere to the strict ethical principles that rule academic endeavors. Respect of intellectual property is the most important of these principles. The copyright on publications represents one way to protect intellectual property, and academic journals usually request that authors transfer the copyright of their works to them. The copyright holder of A&A articles is ESO, which in turn

transfers the copyright for a limited amount of time to the A&A publisher. In the case of A&A, the transfer of copyright does not keep the author from advertising her/his work in the most efficient way (e.g., by distributing it widely in abstract and reprint databases). When speaking of copyright we are touching on much wider issues such as the so-called open access to scientific information. We only need to stress here that the respect of intellectual property has several practical consequences for authors, and we mention them in turn below, beginning with plagiarism.

Plagiarism is defined in the Instructions for Authors as “*the act of reproducing text or other content from works written by others without giving proper credit to the source of that content*”. Citing a copied text literally is not the only condition for determining plagiarism, which also includes any paraphrased text that discusses an already published idea without citing its source³.

Plagiarism is a major ethical fault that may also constitute a legal breach of copyright if the reproduced material has already been published. This is particularly true when authors cite text from their own previously published works. A&A Editors refer to this as “*self-plagiarism*”. Authors who wish to quote directly from other published work must cite the original reference and include any cited text in quotation marks. Likewise, figures may only be reproduced with permission. Because A&A focuses on publishing results of original research, authors are discouraged from using any direct quotations and figures⁴ of previously published papers. Software tools are available to help Editors locate plagiarized material in submitted articles and are used routinely at A&A.

Papers published in A&A should cite previously published papers that are directly relevant to the results being presented or discussed. *Improper attribution* – i.e., the deliberate refusal to cite prior, corroborating, or contradicting results – represents an ethical breach on a par with plagiarism.

³Reproducing or adapting in one’s writings material taken from Internet pages, e.g., from Wikipedia articles, without mentioning the original source also constitutes plagiarism. The fact that Wikipedia is a free encyclopedia to which everyone can contribute does not mean that its contents can be used freely. Wikipedia’s terms of use state clearly that “*Each copy or modified version that you distribute must include a licensing notice stating that the work is released under the Creative Commons Attribution/Share-Alike License 3.0 (Unported) and either (a) a hyperlink or URL to the text of the license or (b) a copy of the license.*” Similar restrictions hold for most material available on the Internet.

⁴Figures that have appeared elsewhere (i.e., copyrighted pictures) are not acceptable unless they are absolutely necessary for understanding the article submitted to A&A. In such a case, the author should request written permission to reproduce from both the original publisher of the figure and its author and send these documents to the editorial office when submitting the article.

Plagiarism, self-plagiarism, and improper attribution can result in the summary rejection of a manuscript submitted to A&A. In the severest cases of plagiarism, offending authors can be banned from publishing in A&A for a determined period of time. In such cases, the Editor in Chief can also inform the Editors in Chief of the other professional astronomy journals of this ethical misconduct. Mercifully, such breaches remain a relatively rare occurrence.

When you submit an article to A&A, you must attest that your coauthors have read the work and agree with the paper's contents. Adding prominent scientists to the authorship who had nothing to do with the paper is a practice that seems to be developing in some corners, perhaps in the hope that the article will be accepted more easily. This is, of course, another reason for summary rejection.

One should also mention that any given paper cannot be submitted simultaneously to more than one refereed journal. We must emphasize in this context that A&A does not systematically refuse papers that have been previously rejected by another journal, however, the Editors expect a candid attitude from authors concerning these papers. If an author tells the Editor about that paper's previous history, it is likely that A&A will give it a second chance to be published. Some authors choose not to tell us when their submitted paper has already been refused elsewhere, but since we use the same pool of referees as other leading journals, chances are that the Editor in charge of the paper will find out anyway. In this case, summary rejection is likely to follow.

Finally, a given work cannot be published in more than one refereed journal. Doing so – and we have seen a couple of cases in the recent past – is *not* the best idea for increasing the length of one's list of publications. Instead, it constitutes the ultimate ethical and copyright breach, and results in a long-term ban of the culprit from publishing in A&A.

A&A does not require authors to sign a chart of good ethical conduct, but considers that by submitting their paper, they implicitly adhere to the ethical principles outlined above. We thus rely on the good faith of our authors and consider that, as professional scientists, they are keen to follow the rules of the game. However, we have witnessed in recent years some cases of fraudulent behavior that may indicate that time has come to adopt a more formal ethical code and to explicitly request authors to adhere to it, as other journals are also doing. We have thus recently introduced, as a first step in that direction, two explicit actions that concern ethics and copyright issues. First, authors are asked to answer two questions when you submit a manuscript to A&A via the webpage of the Manuscript Management

System⁵:

- Have all co-authors read the manuscript?
- Has this work been previously submitted to another journal?

If your answer is not ‘yes’, A&A editors expect you to provide an explanation of why all co-authors did not read the paper, or give a detailed account of the previous history of the paper.

Second, you will be requested to sign a copyright transfer to ESO after your paper has been accepted. The statement, which explains the author’s duties and rights, is very similar to the one you would sign if your paper had been accepted in another one of the major astronomy and astrophysics journals.

A full-fledged ethical code should address the attitude expected not only from authors, but also from the other actors of the peer review, i.e, the referees and editors. As mentioned earlier, A&A has traditionally relied on confidence and good faith, and had not yet found it useful to develop such a comprehensive ethical chart. Given the growing number of contentious cases, which reflects an unwelcome but palpable societal trend, writing an extensive chart nevertheless seems a worthy near-term goal for the Journal.

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⁵<https://mms-aanda.obspm.fr/is/aa/>