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Research and Science Services

Library Services

NOIRLab Publications Tracking Process & Criteria

Author(s): S. Hunt

NOIRLab Reference Code: NOIR-08-DO-GDL-00001

Release Version: 1.1

Release Date: 2022-04-08; revised 2023-06-16

Public



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1. Overview

Publications tracking provides a way to measure and demonstrate the scholarly impact and scientific contributions of an observatory's facilities, staff, and services.

NOIRLab tracks publications that meet one of the following criteria:

- use data from our telescopes
- use data from telescopes on which we have granted community-access time
- use our data services or data products
- are authored by our technical and scientific staff

This document describes the publication tracking process and the selection criteria for inclusion or exclusion of papers into the NOIRLab publications listings and metrics. These criteria are in compliance with the IAU guidelines for telescope bibliographies (Appendix A) and with practices followed by other observatories.

2. Identification Process

2.1 Astrophysics Data System (ADS)

The Astrophysics Data System (ADS) is the primary database we search to identify relevant publications.

2.2 Journals

We track staff publications in both refereed and non-refereed publications. See Section 5.3 for a list of refereed journals we track for telescope data.

2.3 Observatory Telescope Bibliographies

We perform full-text searches on papers in ADS using keywords relevant to our telescopes, data services and products, and surveys. We run affiliation searches to identify staff-authored publications. We use the journal date of publication to determine in what fiscal year the publication should be recorded rather than the ADS date.

2.4 Paper Review

Papers identified through the search process are examined by Library Services staff to determine if the paper meets our criteria for inclusion.

2.5 Paper Acceptance

Papers that are accepted for inclusion in our publications database are placed in our ADS NOIRLab bibliographic group and ADS staff publications public library as appropriate.

The final decision on inclusion or exclusion of a publication rests with the RSS Director.

2.6 Metadata

Papers are tagged in our publications database for metadata including telescope, instrument(s), dates of observing, NOIRLab author, proposal IDs and PIs, archival data use, and survey(s).

2.7 Frequency of Updates

Searches are conducted on a continual basis, and the ADS public libraries for staff publications and for telescope publications are updated at least every two weeks.

3. Reporting

3.1 Metrics

Publication metrics are an important measure of the scientific output of our organization, its telescopes, and its data services and data products. We compile and report on publications metrics for reports to NSF and other governing bodies.

Publication statistics are summarized in charts available [at https://noirlab.edu/science/library/publications/metrics](https://noirlab.edu/science/library/publications/metrics). These statistics are derived from our internal database as well as from the ADS metrics graphs available for the NOIRLab bibliographic group, the NOIRLab Staff Publications public library, and the public libraries for NOIRLab individual telescopes.

3.2 ADS Libraries

NOIRLab maintains two publicly accessible libraries in ADS for the scientific community and general public: the NOIRLab Bibliographic Group in ADS for publications using our telescope data and/or data

services and products (bibgroup:"noirlab") and the NOIRLab Staff public library (<https://ui.adsabs.harvard.edu/user/libraries/RrGZ7UpxRSaRQXn8ZRtL2g>).

The Gemini online publications database is at <https://www.gemini.edu/science/publications/>.

There are ADS public libraries for the individual telescopes in the Mid-Scale Observatories Program (MSO: Kitt Peak National Observatory and Cerro Tololo Inter-American Observatory, for Dark Energy Camera (DECam) publications, for Astro Data Lab publications, for Legacy Surveys publications, and for the Community Data and Science Center Program (CSDC).

3.3 Website

The [NOIRLab Library Services Publications web page](#) contains links to

- the ADS NOIRLab bibliographic group;
- the ADS Public Library for NOIRLab Staff Publications;
- the Gemini Publications database;
- the MSO and CSDC publication listings and ADS public libraries for individual MSO telescopes and for CSDC data products and services;
- NOAO Publication Lists;
- US NGO publications information; and
- NOIRLab publication metrics.

3.4 Fiscal Year

We report on publication metrics by the NOIRLab fiscal year: 10.01.YY through 9.30.YY.

4. Staff Publications

4.1 Inclusion criteria

We include papers that meet the following specifications:

- Affiliation
 - The authors are either NOIRLab technical staff or scientific staff.
 - The paper lists the author(s) affiliation as NOIRLab. This includes staff who are no longer with the organization if the work reported in the paper was done while the staff was at the organization and the individual includes NOIRLab as one of their affiliations.
 - An author was a student in the NOAO REU program and the paper includes an acknowledgment of the program.

- Publication Type
 - The paper appears in either non-refereed or refereed publications (journals and books).
 - The paper appears in conference proceedings (IAU, ASP, SPIE).

4.2 Exclusion criteria

We exclude the following publication:

- telescope proposals
- meeting abstracts (e.g., AAS abstracts)
- workshop/conference presentations and posters unless published in a proceedings volume
- Minor Planet Circulars (MPC, MPEC)
- Transient Name Server AstroNotes; Transient Name Server Discovery Report; Transient Name Server Classification Report
- IAU circulars
- lectures
- observatory newsletter articles
- submitted but not yet published, including arXiv pre-prints; other “works in progress”
- advance electronic versions of papers to be published in the future (we include these in our publications database when they are published)
- publications by current staff members where the affiliation listed in the publication is their previous affiliation(s) and the publication is based on work in their previous position (see bullet point #2 in the Inclusion Criteria)
- publications that are an author correction/erratum/publisher correction

4.3 Rubin Operations

- Rubin Operations provides staff publication numbers for the NOIRLab annual report (and at other times as needed) for individuals in Rubin Operations.

5. Telescope Science Data Publications

5.1 Inclusion criteria

We include papers that meet the following specifications:

- The paper uses, in part or exclusively one or more of the following:
 - data from NOIRLab telescope facilities

- data from the Astro Data Archive archival data repository
- data from community-access time on non-NOIRLab telescopes granted by NOIRLab
- NOIRLab CSDC data services or data products (Astro Data Lab, ANTARES, NOIRLab Source Catalog)
- The paper uses the above-mentioned data to base some or all of its scientific conclusions.
- There must be new analysis of the data or new scientific results derived from the data cited. This includes original data obtained and analyzed by the author(s), NOIRLab archival data that have been reduced or analyzed anew by the author(s), data that have been analyzed by others, and data obtained from other sources that are reduced or analyzed anew by the author(s).
- The amount of NOIRLab data analyzed does not have a bearing upon inclusion; if a small amount of NOIRLab data in relation to the total amount of datasets in the paper is used in the conclusions, the paper is included.
- The paper appears in a refereed journal.
- See Section 5.3 for a list of the main refereed journals in which we track publications.

5.2 Exclusion criteria

We exclude papers that have the following parameters:

- are advance electronic versions of papers to later appear in print
- publications that are an author correction/erratum/publisher correction
- use the published standard stars for calibration purposes
- only mention or suggest future observations and programs
- simply mention ongoing projects
- quote data and results derived from their use in a previous paper or papers where no new analysis of the data is involved and no new scientific results have been derived
- use data only as examples in models or simulations; develop models or run simulations on data including machine learning work
- describe technical, instrumentation, or software aspects of our telescopes unless the publication analyzes telescope data to illustrate change or improvement.
- cite NOIRLab telescopes in the history/background/introduction sections as part of a summary of other people's research or the entire body of literature
- show an NOIRLab image as a visual reference rather than using it to derive scientific results. For example, if the publications uses an optical image as a background for a data plot or as a visual reference without the optical image providing context to the data presented or adding significance to the information being conveyed, we exclude the paper. If the details of the image are not discussed and the image does not contribute to

- the scientific results and conclusions of the paper, we exclude the paper.
- cite KPNO standard stars or telescope filters
 - cite the use of IRAF only

5.3 Journals

We include the following refereed journals in our tracking procedure. Abbreviations are those used in ADS.

Advances in Space Research (AdSpR)	Nature Astronomy (NatAs)
Annual Review of Astronomy and Astrophysics (ARA&A)	Nature Communications (NatCo)
Astronomical Journal (AJ)	Nature Physics (NatPh)
Astronomische Nachrichten (AN)	New Astronomy (NewA)
Astronomy & Astrophysics (A&A)	New Astronomy Review (NewAR)
Astronomy and Astrophysics Review (A&ARv)	New Journal of Physics (NJPh)
Astronomy Letters (AstL)	Philosophical Transactions of the Royal Society A (RSPTA)
Astrophysical Journal (ApJ)	Physical Review D (PhRvD)
Astrophysical Journal Letters (ApJL)	Physical Review Letters (PhRvL)
Astrophysical Journal Supplement (ApJS)	Planetary & Space Science (P&SS)
Astrophysics and Space Science (Ap&SS)	Planetary Science Journal (PSJ)
Experimental Astronomy (ExA)	Publications of the Astronomical Society of Australia (PASA)
Geophysical Research Letters (GeoRL)	Publications of the Astronomical Society of Japan (PASJ)
Icarus (Icar)	Publications of the Astronomical Society of the Pacific (PASP)
Journal of Geophysical Research (Planets) (JGRE)	Research in Astronomy and Astrophysics (RAA)
Journal of the Korean Astronomical Society (JKAS)	Revista Mexicana de Astronomia y Astrofisica (RMxAA)
Journal of the Optical Society of America (JOSAA)	Science (Sci)
Monthly Notices of the Royal Astronomical Society (MNRAS)	
Nature (Natur)	

6. Archival Publications

6.1 Surveys

- A “survey paper” often arises from someone using someone else’s telescope data (made available via the Archive) and writing a paper.
- We include papers that cite the use of surveys where an MSO telescope was used either exclusively or with other (non-NOIRLab) telescopes, but only if the MSO telescope, or NOIRLab, is specifically mentioned in the paper.
- NOIRLab Approved Survey Programs that add data to the Astro Data Archive are tagged as both a telescope and an archival publication, regardless of author affiliation.

Appendix A: IAU Best Practices for Creating an Observatory or Telescope Bibliography

IAU, “Best Practices for Creating an Observatory or Telescope Bibliography,” April 2014. (presentation - <https://zenodo.org/record/10738>)

Lagerstrom, J. 2015, “Best Practices for Creating an Observatory or Telescope Bibliography from the IAU Commission 5 Working Group on Libraries.” ASPC, 492, 99L, 2015ASPC..492...99L

Telescope bibliographies have been used for many years to illustrate the scholarly impact of a particular facility. Often, however, the methods used to create these bibliographies were developed independently and not always shared. As a result, it is often difficult to judge the relative impact among facilities. Best Practices for Creating an Observatory or Telescope Bibliography was developed following discussions at the International Astronomical Union's Commission 5 Working Group on Libraries meeting at the 2012 IAU General Assembly in Beijing. This community-driven document identifies the basic components needed to create a bibliography policy that is transparent and the results of which are intended to be reproducible and retrievable by any entity to within a 5% error rate. This paper will review the details of the document as well as its history, progress, and future. Lagerstrom, J., Best Practices for Creating an Observatory or Telescope Bibliography from the IAU Commission 5 Working Group on Libraries in Open Science at the Frontiers of Librarianship, edited by András Holl, Soizick Lesteven, Dianne Dietrich, and Antonella Gasperini (2015), Vol. 492 of Astronomical Society of the Pacific Conference Series, p. 99–103

3. Best Practices for Creating an Observatory or Telescope Bibliography

Rationale: Citation analysis and bibliometrics have become fundamental tools for measuring the impact of observatories and the return on the investment of public funds for advancing astronomical research. The importance of the integrity and reproducibility in scientific research is not restricted to the research itself, but also to the measure of the impact of that research.

Ideally, bibliometric results should be reproducible and retrievable by any entity to within a 5% error rate. To this end, the following are recommended best practices for the construction and maintenance of bibliographies related to a particular observatory or telescope.

1. The full text of papers is searched to generate an initial subset of papers to be judged for inclusion into the bibliography.
2. Papers are examined “by eye” to be judged for inclusion into the bibliography.
3. While not all bibliographies are based on the same set of journals, journal coverage should cast the widest net possible.
4. The journals that the organization considers as “refereed” will be listed or the local definition of “refereed” will be included as part of the policy for inclusion in the bibliography.

5. The organization will provide a definition of what is considered to be a paper that represents the scholarly output of the observatory/facility.
 - 5.1. In most cases, bibliographies are based on usage of data obtained with the telescope/facility in question; organizations should supply criteria in terms of data usage or make it explicit that some other criteria are used.
 - 5.2 The definition should include whether the bibliography distinguishes between the following types of papers:
 - A. Papers that present the primary analysis of data.
 - B. Papers that refer to data analyzed by others, or are based on derived results rather than primary analysis.
 - C. Whether the amount or type of data analyzed has any bearing upon including a paper.
 - D. If there are any special cases either for inclusion or exclusion of a paper.
 - E. Whether the bibliography includes papers that describe instrumentation or observatory software (“instrument papers”) as opposed to observational data papers (“science papers”).
6. Anything can be added to the organization’s bibliography as long as there is enough metadata to know — and understand — the metrics being generated or compared.
7. The bibliography will include definitions for all metadata tags.