NRAO Library Bibliometrics Policy

Change Record

PREPARED BY	ORGANIZATION	DATE
Lance Utley	NRAO	04/20/22

Change Record

VERSION	DATE	REASON
1.0	05/28/20	Draft
1.1	05/29/20	Revisions
1.2	06/02/20	Revisions
1.3	04/20/22	GBO text

TABLE OF CONTENTS

1   INTRODUCTION

NRAOPapers is the Observatory's paper bibliography system composed of the middleware application called NRAOPapers, a MySQL database, and a SOLR Blacklight installation. NRAOPapers is the back-end application written in-house to interface with the MySQL database. SOLR Blacklight is the front-end offering faceted search capability.

The database includes papers from 1957 to the present and consists of enhanced citations of published papers using NRAO telescope data, GBO telescope data, or written by NRAO or GBO staff. An enhanced citation includes the title, authors, publication information, telescope usage, author affiliations, author coding, NRAO/GBO proposal codes, and publication support information. The data collected in NRAOPapers are used for NRAO publication reports submitted to the National Science Foundation and affect funding for NRAO.

2   IDENTIFICATION PROCESS

The NRAO Library identifies papers that present new scientific results with NRAO or GBO telescope data or papers by NRAO and GBO staff not using NRAO or GBO telescope data. The Astrophysics Data System (ADS) is the primary discovery tool. Each paper accepted for inclusion in the bibliography is coded for statistical and reference purposes.

2.1   Search Strategies

ADS searches for refereed papers are performed on at least a bi-weekly basis. Library staff run ADS 'fulltext' searches using any or all of the key terms listed below. Search terms are adjusted as the librarian sees fit depending on the focus of a particular search

> National Radio Astronomy Observatory
> NRAO
> Very Large Array
> VLA
> Very Long Baseline Array
> VLBA
> Green Bank Telescope
> GBT
> Green Bank Observatory
> Atacama Large Millimeter/submillimeter Array
> ALMA

Additionally, affiliation searches are run monthly to identify additional staff authored papers. Searches for surveys that have used NRAO telescopes, such as NVSS and FIRST, are performed annually at a minimum. Searches may be narrowed to a specific time range, in monthly increments, run by year, or for a range of years as the reviewing librarian deems appropriate to keep pace with paper publication.

2.2   Paper Review

Search sets are exported from ADS and pruned to bibcodes only. Bibcodes are used to create ADS query records in NRAOPapers which retain the search output for review over time. Search results are

examined, paper-by-paper, to determine whether NRAO telescope data were used or if an author claims an NRAO affiliation.

If NRAO telescope data were used in the paper, the use is assessed to confirm whether it constitutes new scientific results. The full criteria for judging a paper's use of NRAO data to be new scientific results are detailed in library training materials.

If an NRAO affiliation other than primary staff is indicated, this claim is validated. Secondary affiliations tracked in the database are fellowships, students mentored by staff, summer students, and adjuncts.

3   PAPER ACCEPTANCE

If the review determines a paper merits inclusion in the database, the paper is accepted. The new record is edited to add the additional information the library tracks that is not available from ADS.

Papers that make use of data by citing their use in a previous paper, with no new analysis, are not included in the database. Papers covering the technical, instrumentation, or computing aspects of an NRAO telescope are not counted as telescope papers unless the paper analyzes new or reanalyzes old telescope data as proof of change or improvement.

3.1   Coding Paper Records

When a paper meets the criteria for inclusion, the bibliographic record is imported into NRAOPapers. The imported information includes the title, publication information, ADS bibcode, author list, author affiliations, and citation count from ADS. The record is enhanced by adding codes identifying the telescope usage (or the alternate paper type in the absence of telescope data), proposal codes, and author affiliation codes. Paper records include fields to add publication support details when awarded and any notes about the paper.

3.2   Updating Paper Records

Daily update queries compare NRAOPapers to the matching ADS record. Before a paper is published, any change in an ADS record is applied to the matching record details in NRAOPapers. After a paper is published, the only information that will be updated from ADS is the citation count. A summary of applied changes is available within NRAOPapers and is reviewed daily. Finally, library staff will make manual updates to paper records whenever required. A common occurrence that requires manual intervention is when a temporary ADS bibcode is changed to a permanent bibcode. Temporary bibcodes are typically used for advanced, online versions of papers.

4   BIBLIOMETRIC OUTPUT

Data from collected papers are compiled into publication statistics summarized in charts maintained at https://library.nrao.edu/pubstats.shtml and more detailed queries are provided on request. The publication statistics are a critical element in the Observatory reporting to the NSF.