

# Data and Software Indexing in ADS

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*For the ADS Team*

AAHEP VIII – September 2, 2015



# Data products in ADS

- Lots of astronomy records have “data links” which point to trusted archives at NASA, ESA, other databases (NED and SIMBAD)
- But some data products have their own record:
  - VizieR Data catalogs (associated with refereed papers)
  - Observing proposals (linked to observations at archives)
- The main reason behind this indexing is to promote the use of NASA Astrophysics data by integrating bibliographies and links to data products

# Data citations in ADS: Vizier catalogs

INSERT FIELD: Author First Author Abstract Year Fulltext Reviews(...) Citations(...)

Search Form ▾ bibstem:"yCat" X Q

Your search returned **9,807** results

Sort: Citation Count ▾

Export ▾

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## Authors

- Udry, S
- Mayor, M
- Queloz, D
- Pepe, F
- Santos, N

more ▾

## Collections

- astronomy
- physics

## Refereed Status

- refereed
- not-refereed

## Keywords

## Publications

## Bib Groups

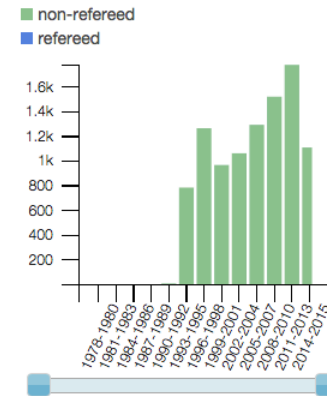
Show abstracts

« »

- 2003yCat.2246....0C 2003/06 cited: 557  
**VizieR Online Data Catalog: 2MASS All Sky Catalog of Point Sources (Cutri+ 2003)**  
Cutri, R. M.; Skrutskie, M. F.; van Dyk, S. *and 22 more*
- 1997yCat.1239....0E 1997/02 cited: 369  
**VizieR Online Data Catalog: The Hipparcos and Tycho Catalogues (ESA 1997)**  
ESA
- 1998yCat.1252....0M 1998 cited: 311  
**VizieR Online Data Catalog: A catalog of stars with Hipparcos standards.**  
Monet, D.; et al.
- 2003yCat.5114....0E 2003 cited: 167  
**VizieR Online Data Catalog: MSX and 2MASX Source Catalog. The Midcourse Space Experiment Point Source Catalog Version 2.3 (October 2003)**  
Egan, M. P.; Price, S. D.; Kraemer, K. E. *and 6 more*

0 selected papers

Years Citations Reads



# Catalog metadata

← Back to results

Search Form ▾

bibstem:"yCat"



VIEW

Abstract

Citations (557)

References

Co-Reads

Graphics

Metrics

EXPORT

in BibTEX

in AASTex

in Endnote

## VizieR Online Data Catalog: 2MASS All-Sky Catalog of Point Sources (Cutri+ 2003)

Show all authors

Cutri, R. M.; Skrutskie, M. F.; van Dyk, S.; Beichman, C. A.; Carpenter, J. M.; Chester, T.; Cambresy, L.; Evans, T.; Fowler, J.; Gizis, J.; Howard, E.; Huchra, J.; Jarrett, T.; Kopan, E. L.; Kirkpatrick, J. D.; Light, R. M.; Marsh, K. A.; McCallon, H.; Schneider, S.; Stiening, R. ; ...

The Two Micron All Sky Survey (2MASS) project is designed to close the gap between our current technical capability and our knowledge of the near-infrared sky. In addition to providing a context for the interpretation of results obtained at infrared and other wavelengths, 2MASS will provide direct answers to immediate questions on the large-scale structure of the Milky Way and the Local Universe. To achieve these goals, 2MASS is uniformly scanning the entire sky in three near-infrared bands to detect and characterize point sources brighter than about 1 mJy in each band, with signal-to-noise ratio (SNR) greater than 10, using a pixel size of 2.0". This will achieve an 80,000-fold improvement in sensitivity relative to earlier surveys. 2MASS uses two new, highly-automated 1.3-m telescopes, one at Mt. Hopkins, AZ, and one at CTIO, Chile. Each telescope is equipped with a three-channel camera, each channel consisting of a 256x256 array of HgCdTe detectors, capable of observing the sky simultaneously at J (1.25  $\mu\text{m}$ ), H (1.65  $\mu\text{m}$ ), and Ks (2.17  $\mu\text{m}$ ), to a  $3\sigma$  limiting sensitivity of 17.1, 16.4 and 15.3mag in the three bands. The 2MASS arrays image the sky while the telescopes scan smoothly in declination at a rate of  $\sim 1'$  per second. The 2MASS data "tiles" are 6 deg. long in the declination direction and one camera frame (8.5') wide. The camera field-of-view shifts by  $\sim 1/6$  of a frame in declination from frame-to-frame. The camera images each point on the sky six times for a total integration time of 7.8 s, with sub-pixel "dithering", which improves the ultimate

Archival Data

SUGGESTED ARTICLES

(EXPERIMENTAL FEATURE)

[Black Holes, Galaxy Formation, and the  \$M\_{\text{BH}}-\sigma\$  Relation \(King,+\)](#)

more

# Citations to the record

← Back to results

Search Form ▾

bibstem:"yCat"



Abstract

Citations (557)

References

Co-Reads

Graphics

Metrics

EXPORT

in BibTEX

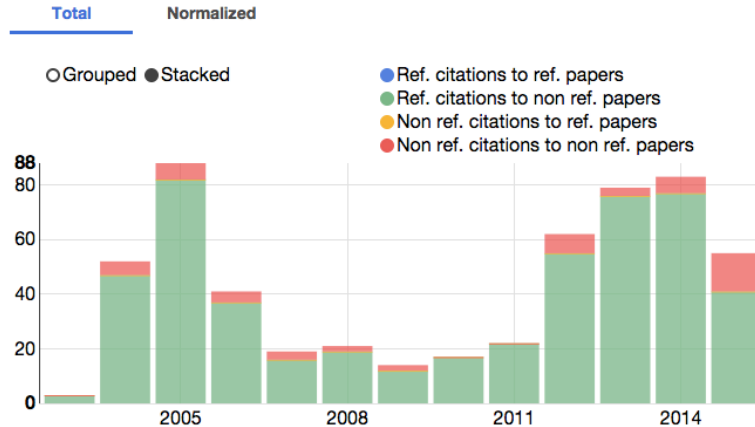
in AASTex

in Endnote

## VizieR Online Data Catalog: 2MASS All-Sky Catalog of Point Sources (Cutri+ 2003)

### Citations

Total citations	?	556
Number of self-citations	?	0
Normalized citations	?	22.2
Refereed citations	?	504
Normalized refereed citations	?	20.2



DATA PRODUCTS

Archival Data

SUGGESTED ARTICLES

(EXPERIMENTAL FEATURE)

Black Holes, Galaxy Formation, and the  $M < \text{SUB} > \text{BH} < / \text{SUB} > - \sigma$  Relation (King, +);

more

# Software products in ADS

- Starting in 2013, ADS has been indexing the contents of the Astrophysics Source Code Library (ASCL)
- Why ASCL?
  - well-defined editorial criteria for inclusion
  - focus on Astronomy & Astrophysics
  - project seems stable enough to stick around
- ASCL entries currently being cited at a reasonable rate
- Sociology of credit and attribution still not settled:
  - citation of ASCL record vs. “software paper”
  - evolving authorship of software a challenge

# Software citations in ADS: ASCL records

INSERT FIELD: [Author](#) [First Author](#) [Abstract](#) [Year](#) [Fulltext](#) [Reviews\(...\)](#) [Citations\(...\)](#)

Search Form ▾  ✕ 🔍

Your search returned **1,111** results

Sort: Citation Count ▾

📄 Export ▾

📊 Explore ▾

Authors

- Jenness, T
- Bertin, E
- Gammie, C
- Portegies Zwart, S
- Berry, D

[more ▾](#)

Collections

- astronomy

Refereed Status

- refereed
- not-refereed

Keywords

Publications

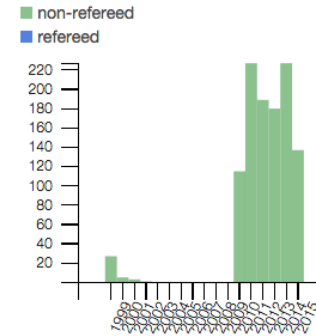
Bib Groups

Show abstracts

- | Rank | ASCL ID             | Year    | Citation Count | Title   | Authors   |
|------|---------------------|---------|----------------|---|---|
| 1    | 2012ascl.soft03003C | 2012/03 | cited: 37      | <b>spec2d: DEEP2 DEIMOS Spectral...</b>                                       | Cooper, Michael C.; Newman, Jeffrey A.; Davis, Marc <i>and 2 more</i> |
| 2    | 2012ascl.soft08004S | 2012/08 | cited: 23      | <b>PyKE: Reduction and analysis of Kepler Simple Aperture Photometry data</b> | Still, Martin; Barclay, Tom   |
| 3    | 2013ascl.soft05002P | 2013/05 | cited: 18      | <b>pynbody: N-Body/SPH analysis in Python</b>                                 | Pontzen, Andrew; Roškar, Rok; Stinson, Greg <i>and 1 more</i>         |
| 4    | 2012ascl.soft05004P | 2012/05 | cited: 16      | <b>Turbospectrum: Code for spectral synthesis</b>                             | Plez, B.  |
| 5    | 2010ascl.soft10068B | 2010/10 | cited: 15      | <b>SWarp: Resampling and Co-adding FITS Images Together</b>                   |   |

0 selected papers

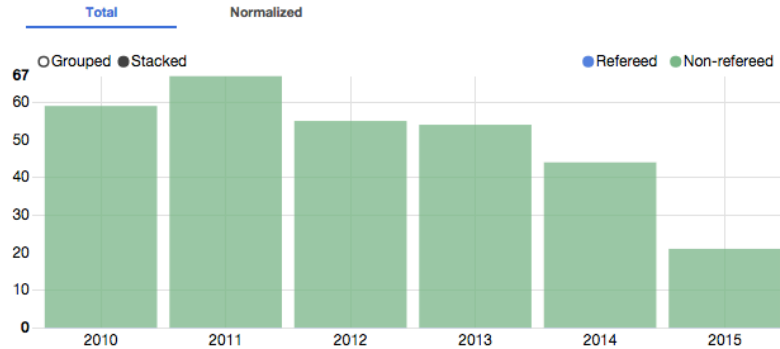
Years Citations Reads



# ASCL records and their citations

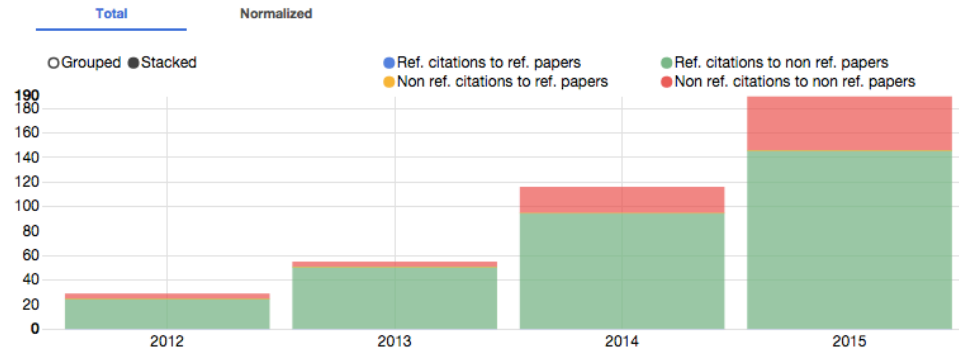
## Papers

	Totals	Refereed
Number of papers	300	0
Normalized paper count	179.3	0



## Citations

	Totals	Refereed
Number of citing papers	339	0
Total citations	390	0
Number of self-citations	0	0
Average citations	1.3	0
Median citations	1	0
Normalized citations	230.4	0
Refereed citations	317	0
Average refereed citations	1.1	0
Median refereed citations	0	0
Normalized refereed citations	184.4	0





# Finding the right balance in indexing non-traditional content often difficult

heard on the streets:

**“If it’s not in ADS it doesn’t exist”**

seen it in practice:

**“If it’s in ADS it’s citable”**

which leads to:

**“Please index X in ADS”**

(where X = dataset, software, blog entry...)