



# Measuring Research Impact of Astronomers/Astrophysicists by using Astrophysics Data System Beta: a Powerful New Interface: a case study with Special Reference to Prof. Jayant V. Narlikar



By

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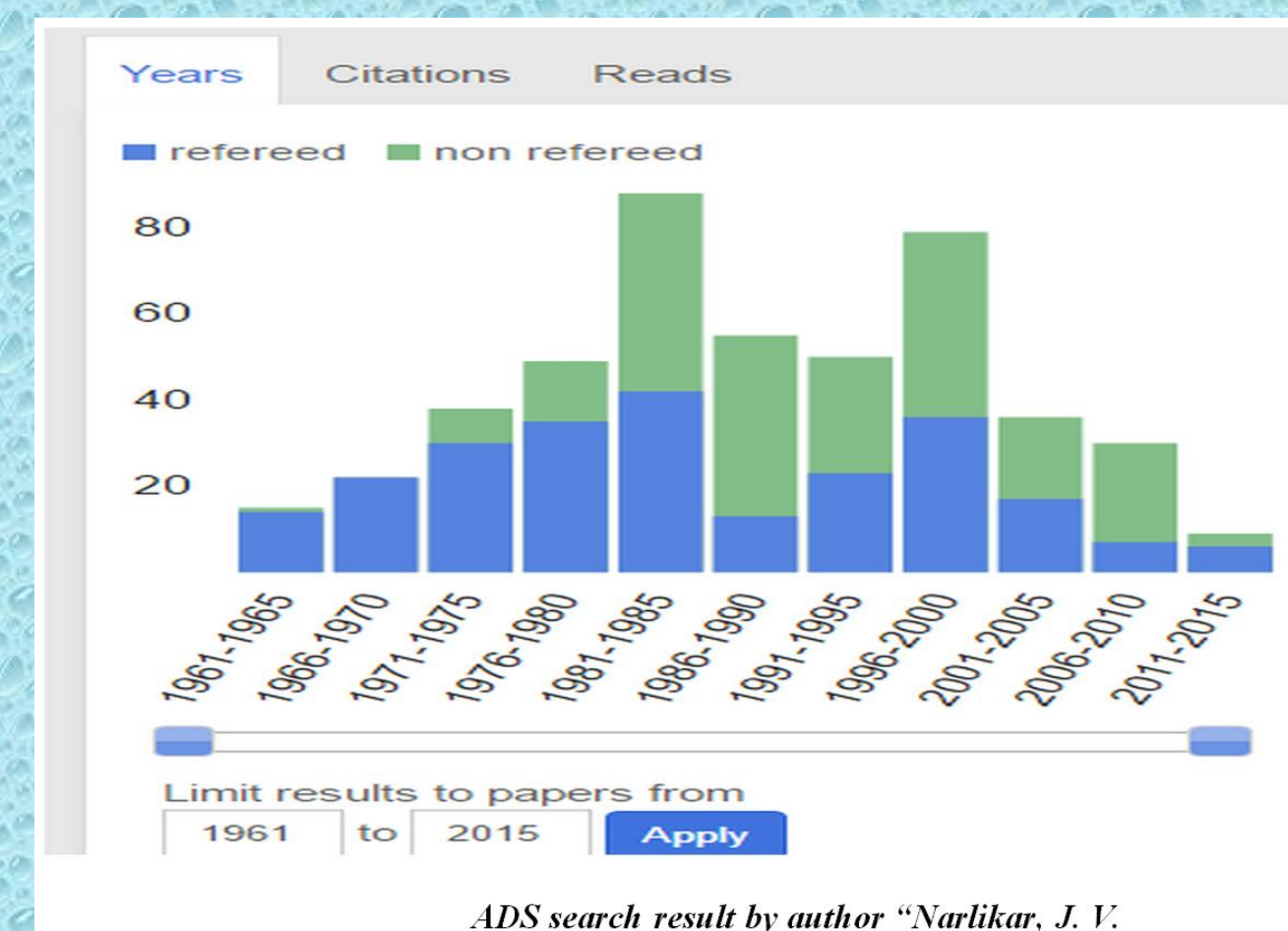
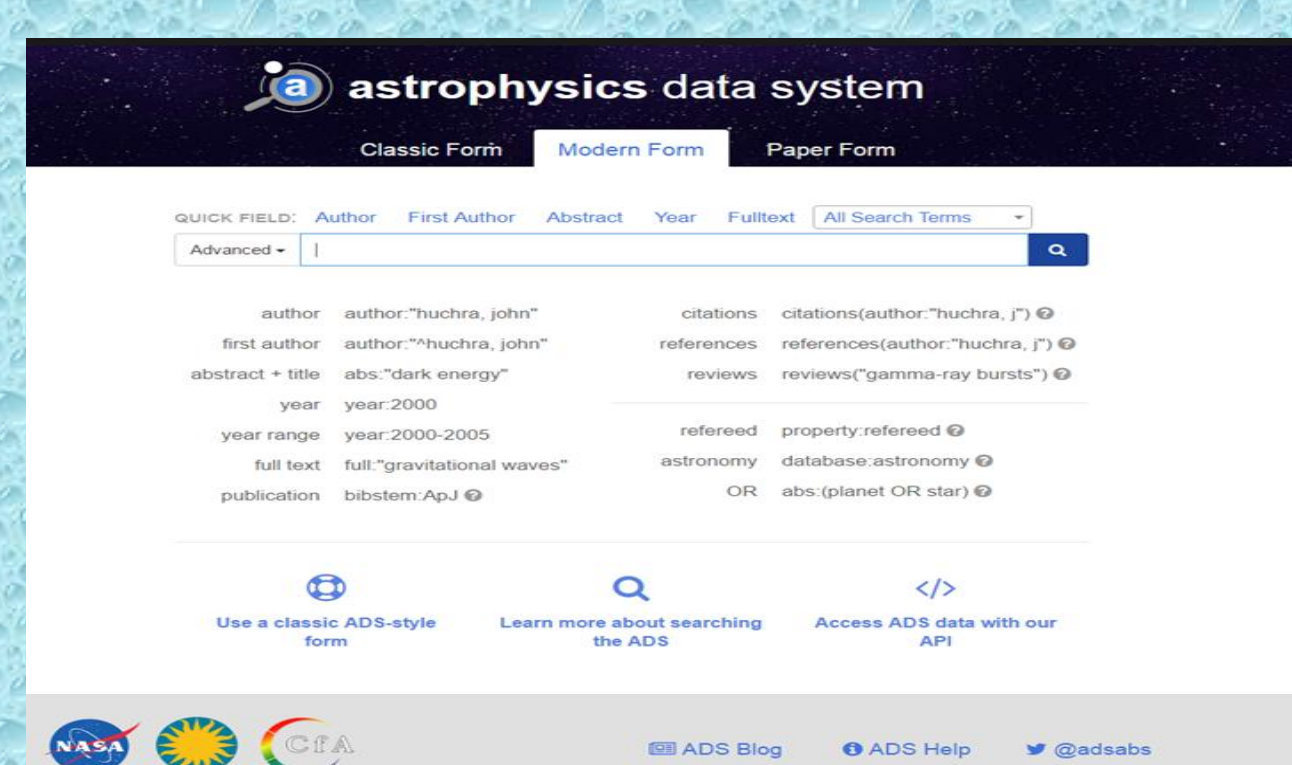
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**Abstract:** The paper highlights the qualitatively and quantitatively particular research productivity of Prof. Jayant V. Narlikar, a renowned Astrophysicist. He has total 472 research publications in fields of AA published during from 1961-2015. **Objective:** The purpose of this paper is to provide an overview of citation-enhanced databases viz Astrophysics Data System Beta: A powerful new interface, which mainly used by Inter-University Centre for Astronomy and Astrophysics (IUCAA) users/visiting associates and to identify issues to be considered when they are used as a data source for performing citation analysis. The paper presents a valuable overview of new citation enhanced databases in the context of research evaluation. **Methodology:** Scientometrics has been used to measure the publication productivity of Prof. Jayant V. Narlikar using Astrophysics Data System beta version: a powerful new interface in the field of AA. **Scope:** The scope of the paper is limited to Astrophysics Data System Beta: A powerful new interface, a case study with special reference to Prof. Jayant V. Narlikar. **Result:** The study suggests that citation-enhanced databases such as Astrophysics Data System (ADS) need to be examined carefully, with regard to both their potentialities and their limitations for citation analysis. The result indicates that most of the papers are published in peer reviewed journals having highest Impact factor. The average number of publications per year is 8.74 and maximum papers published during 1981-1990 and 1996-2000. His publications have total numbers of citations is 3516 and has maximum citations, 665 of his papers published during 1961-1970. He has maximum research collaborations with Prof. F. Hoyle (87 papers), Prof. G. Burbidge (38 papers), Prof. N. Wickramasinghe (22 papers) and Prof. T. Padmanabhan (21 papers).

## Analysis, Results and Major Findings

## Author Productivity and Citations



ADS search result by author "Narlikar, J. V."

## RESEARCH COLLABORATIONS OF PROF. J.V. NARLIKAR

SN	Five years duration	Nos. of Papers	Citations
1	1961-1965	15	665
2	1966-1970	22	348
3	1971-1975	39	419
4	1976-1980	49	281
5	1981-1990	88	398
6	1986-1990	55	186
7	1991-1995	50	575
8	1996-2000	79	362
9	2001-2005	36	222
10	2006-2010	30	55
11	2011-2015	09	05
Total		472	3516

Year wise (In five years duration) papers published/and citations received

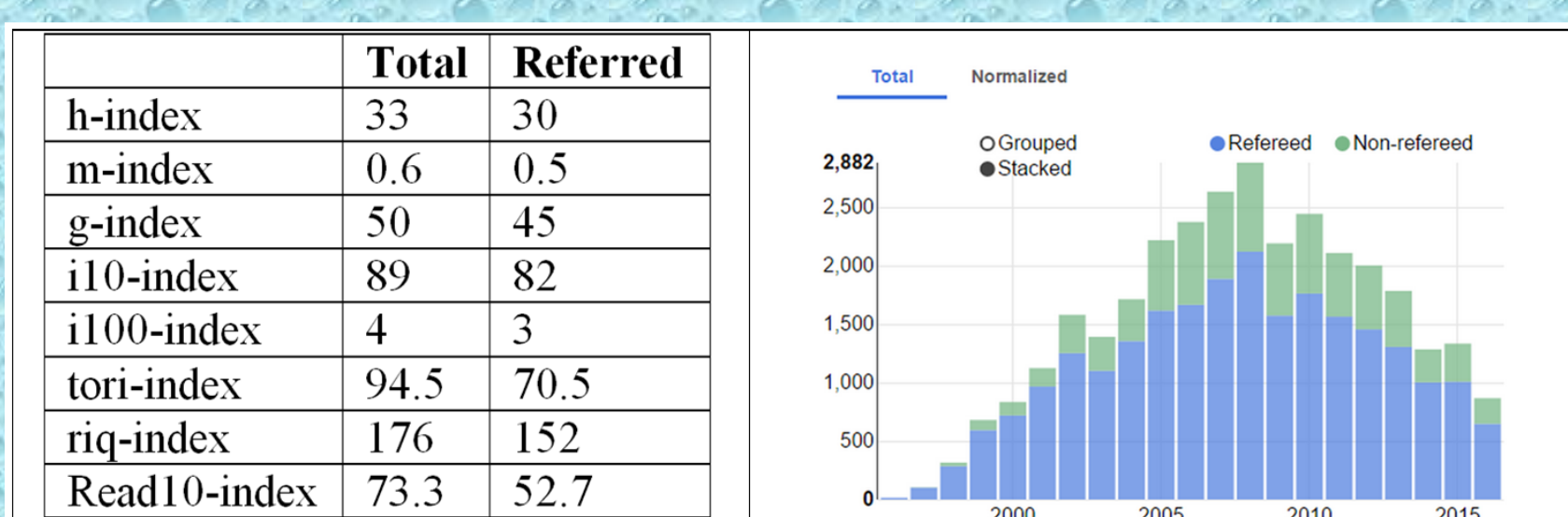
Name of Co-Authors	No of Publications
Hoyle, F.	87
Burbidge, G.	38
Wickramasinghe, N.	23
Padmanabhan, T.	21
Chitre, S.	17
Vishveshwara, C.	14
Kembhavi, A.	11
Packer, J.	11
Arp, H.	8
Vishwakarma, R.	8

Status of Research Collaborations of Prof. J.V. Narlikar

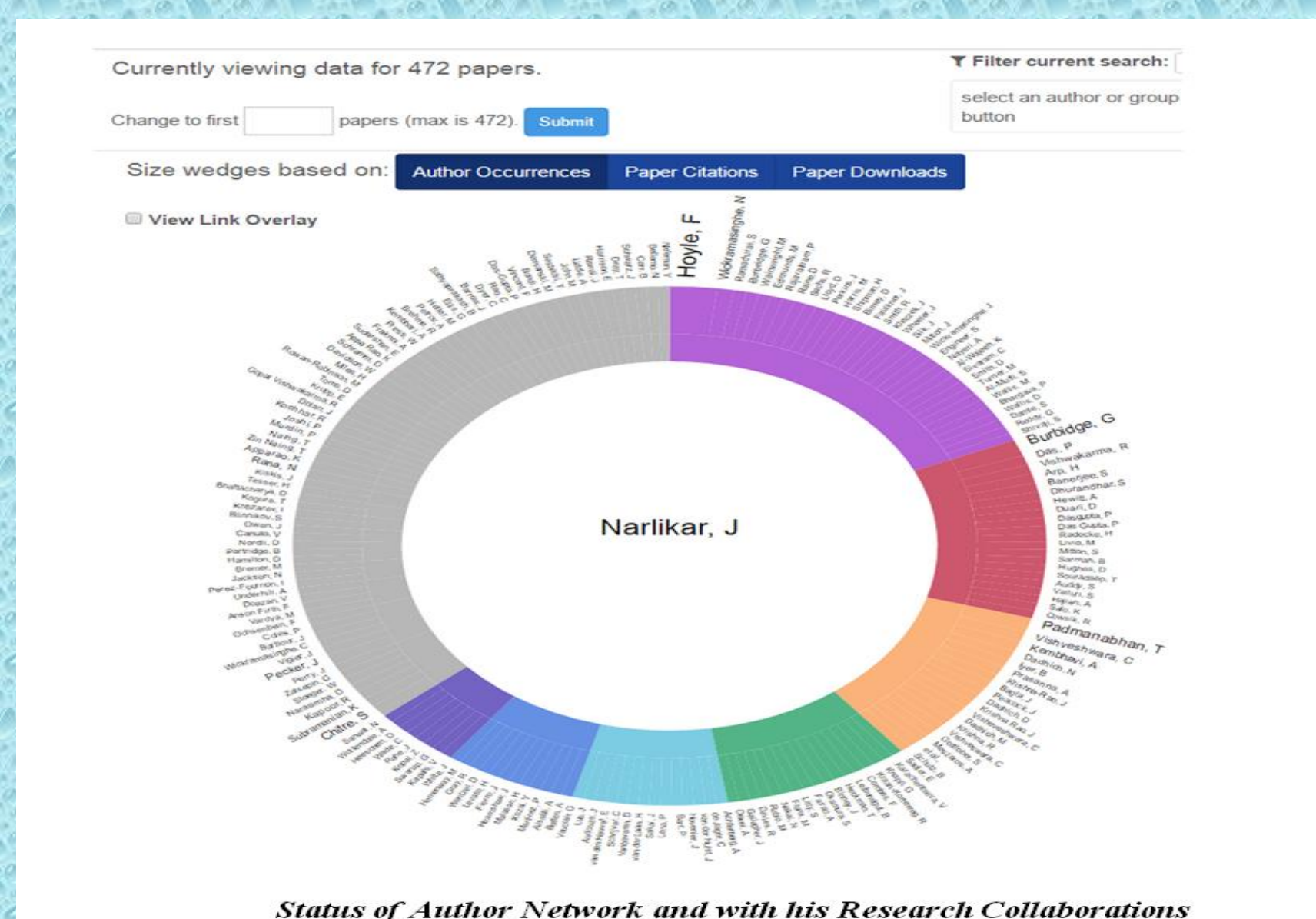
Type of Publications	Numbers of published Papers	% (Percentage)
Articles	304	64.40
In Proceedings	68	14.40
Book review	40	08.47
Book	36	07.62
In book	16	03.38
Erratum	3	00.63
Abstract	2	00.42
eprint	2	00.42
Misc	1	00.21
Total	472	100.00

Table: Status of published papers - publications type wise

## CITATION METRICS OF RESEARCH PAPERS BY PROF. JAYANT V. NARLIKAR



Status of nos of Indices, reads, Downloads and its count year wise



Status of Author Network and with his Research Collaborations

## Status of nos of Indices, nos of reads, Downloads, and its count year wise

### Major findings

- It has been observed that via ADS Beta version database one can explore details of any particular author research impact such as its total citations, number of self-citations, average citations, median citations, normalized citations, refereed citations, average refereed citations, median refereed citations, normalized refereed citations year wise, status of his research impact in types of indices such h-index, m-index, etc year wise, status of numbers of reads, number of download with its count year wise, Status of groups of papers based on shared reference, status of frequently appearing and unique words in search result, status of result of read counts of author papers year wise.
- Prof. Narlikar and with his collaborators have published 472 papers during 1961-2015 in various area of astronomy and astrophysics and allied subjects dominated.
- Prof. Narlikar and with his collaborators have communicated their research findings and published their papers in mainly international journals of Astronomy and Astrophysics, which are indexed regularly in the ADS database and have a high impact factor.
- Prof. Narlikar has h-index count 33 that means his papers have been cited 33 times by others at least 33 times each.

### References and Bibliography for Further Studies

- ASTROPHYSICS DATA SYSTEM (2016). ADS Beta: A powerful Interface (<https://ui.adsabs.harvard.edu/>)
- INTER-UNIVERSITY CENTRE FOR ASTRONOMY AND ASTROPHYSICS (IUCAA) (2016) (<http://www.iucaa.in>)

### Conclusions

Prof. J.V. Narlikar publication productivity under the study of 54 years which he had published 472 papers was 8.7 per year. There are a number of co-authors with whom he did a major research collaboration during his scientific career. Many commercial and free citation databases are available such Web of Science, SCOPUS, Google Scholar, etc., But the ADS is free and powerful research tool and has had a significant impact on the efficiency of astronomical research since it was launched in 1992 as well as covering many old astronomical journals, proceedings, conferences. The use of ADS is almost universal among astronomers worldwide, and therefore ADS usage statistics as well as way to explore of citation analysis in unique, compare two available citation databases.

PS: For details and full-text of this paper, please contact at [hksahu@iucaa.in](mailto:hksahu@iucaa.in) OR refer LISA-VIII proceeding once it is published after this conference/meeting.

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