

**Publication Indicators for Science in India  
Based on International Databases**

PART 1

India's Contribution to the Literature of  
Mathematics and Related Fields:  
An Analysis Based on *MATHSCI* 1988 - mid 1995

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*Submitted to the*  
Department of Science and Technology  
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*Dedicated to the memory of*  
***Mr Subbanagam Iyer***  
*who taught me my first lessons in arithmetic*  
*and created in me a desire for learning*

## About the author

Subbiah Arunachalam is a consultant in the areas of Science and Technology Policy, Information Access, and Writing (both technical and business). Currently he is a Distinguished Fellow in Information Science at the M S Swaminathan Research Foundation, Madras, and a part-time Visiting Professor at the Indian Institute of Technology, Madras, in the Department of Humanities and Social Sciences.

He is an editor of scientific and technical journals, science writer and information scientist. He played an important role in the founding of *Pramana, Journal of Physics*, of which he was the first executive editor, and had contributed substantially to the growth of Indian Journal of Technology. He was with the Indian Academy of Sciences for two years in the early Seventies, where he was editor, secretary, manager, all rolled into one. He is a member of both the Indian and the International Science Writers Associations, and the Indian correspondent of *Higher Education and Development* (Bonn, Germany).

His research interests include science studies, scientometrics, information access, and knowledge flows and he is especially known for his work on science in the developing countries. His work has appeared in *Scientometrics, Journal of Information Science, Current Science, Journal of Scientific and Industrial Research, Knowledge and Policy, The Scientist, Science Today, Science Age, Science Reporter* and in many newspapers.

Arunachalam is on the editorial boards of many refereed journals. These include: *Scientometrics* (Budapest); *Journal of Information Science* (London), *Current Science* (Bangalore), JISSI - International Journal of Scientometrics and Informetrics (Calcutta), and *Public Understanding of Science* (London). He is also on the editorial board of *Current Contents*, PCES edn (Philadelphia), and the *Indian Journal of History of Science*. He has delivered invited talks in about 20 international conferences and chaired sessions in half a dozen conferences.

The author would welcome comments and criticism which may be forwarded to:

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## FOREWORD

Independent India embarked on creating a strong scientific establishment, largely thanks to the foresight and enthusiasm of Pundit Jawaharlal Nehru. The importance attached to scientific research is amply evident from the fact that science has always been under the charge of the Prime Minister or a senior Cabinet Minister. Today India invests over 0.8% of her GNP on scientific research.

Where does mathematics, the queen of the sciences, stand in India? Mathematics research, unlike research in biology, physics, chemistry and engineering, does not need huge investments in laboratory facilities. Often all that a mathematician needs is a group of bright students and a good library, and occasionally access to a computer.

In all that has been done for science in India, not many institutions are built solely devoted to mathematics research. Apart from the Indian Statistical Institute, founded largely through the initiative of Prof. P C Mahalanobis, only the Department of Atomic Energy has supported large groups of mathematicians at its institutes such as the Tata Institute of Fundamental Research, the Institute of Mathematical Sciences, and the Mehta Institute. One should also commend the late Dr Rm Alagappa Chettiar, the great philanthropist, who founded the Ramanujan Institute some forty years ago. In recent times, the SPIC Science Foundation has come forward to establish a research school in mathematics under the leadership of Prof. C S Seshadri. Apart from these institutions, contributions to mathematics research also come from the university departments, the Indian Institute of Science at Bangalore, and the Indian Institutes of Technology.

The National Board for Higher Mathematics, a part of the Department of Atomic Energy, deserves a special mention for its efforts in promoting higher education and research in mathematics.

Indian mathematicians, both pure and applied, are held in high esteem everywhere. A number of American universities, for example, have Indian mathematicians, astronomers and statisticians in important positions in their faculties. A few of them are elected to prestigious Academies of Science.

It would be interesting to take stock of what Indian mathematicians are doing. A step in this direction has been taken by my friend Subbiah Arunachalam. He has looked

at carefully the literature output from India -- all the papers indexed in the database *Mathsci* -- over a seven-year period, and has presented voluminous data. We now have authentic information listing the contributions made by different institutions in the country, the areas in which Indian mathematicians are actively publishing, the journals in which they publish, and so on. Besides this work which is a collection of data, we also need more detailed peer evaluations of recent work in India. Together, these two types of studies should be of great value to policy makers.

I congratulate both the Department of Science and Technology, which funded the study reported here, and my friend Subbiah Arunachalam for carrying out the study meticulously.

I commend this report to policy makers as well as research mathematicians.

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13 August 1996

## PREFACE

Often scientific research performed in Third World countries is perceived as peripheral to mainstream science. The level of peripherality differs from country to country and field to field. After all, as Jean Jacques Salomon has pointed out there is not just one Third World but many Third Worlds. Surely scientific research in India bears no resemblance to that performed in Burkina Faso, for example. As observed by Jack Welch, the Chief Executive Officer of General Electric Company, India is a developing country but it is one of the most developed countries as far as its intellectual infrastructure is concerned. Indeed, in many respects, despite the vast differences in GDP, funds invested in scientific research, standards of living, etc., scientific research done in India is closer to mainstream science than scientific research performed in most parts of the Third World. This is especially so, in fields like mathematics, statistics, and computer science, many areas of physics and new biology. But how close is our work to mainstream science really?

Says Raghunath Mashelkar, Director General of the Council of Scientific and Industrial Research, that we have failed to translate our intellectual strengths into economic strengths. Addressing the 1996 graduating class of the Indian Institute of Technology, Madras, he said that "the wealth creation potential of knowledge is something we have not fully understood. We have still not learnt to build the bridge between discovery and the market place." One cannot but agree with him more. Look at the abysmally small number of commercially exploitable patents filed by Indian scientists. Indeed, one could go one step beyond what Mashelkar has said and ask if India has realised her full intellectual potential in science, witness the distressingly small number of papers Indian scientists publish in the best journals of the world. The situation is somewhat similar to her performance in sports: A nation of 940 million people having to be content with just one bronze medal in the Olympics, that after having drawn a blank in three previous Olympiads, where nations one-tenth the size of India, or even smaller, both in geographic area and in population, have won a few medals. Years ago, Prof. Subrahmanyam Chandrasekhar attributed our poor performance to a lack of character and motivation. Have we not improved since then? Our neighbour across the Himalayas, China seems to be doing much better both in science and in sports.



It is concerns such as these which motivated me to look at scientific research in India comprehensively. As a first step, I decided to map Indian science, as reflected by the published literature, and see where the action is and in what subfields and research fronts different Indian laboratories are actively publishing. I have embarked on an analysis of India's contribution to the literature of the world in several fields -- such as mathematics, physics, medicine, and materials science -- as seen from representative international databases -- such as the CD-ROM editions of *Mathsci*, *INSPEC Physics Abstracts*, *Medline*, and *Materials Science Citation Index*. After all, the scientific literature is as good a mirror of science as one can think of for the purpose of quantitative evaluation of the research performance of a large community of researchers at different levels of aggregation.

In this report, I present my findings on India's contribution to mathematics and related fields, as reflected by *Mathsci* 1988- mid-1995. Other reports in this series will deal with India's contribution to other fields such as physics, materials science and medicine.

As far as I know, such an effort has not been made earlier. However, overviews of research in India in different fields, prepared by active researchers, have been published by the Indian National Science Academy and the Indian Science Congress Association. Four such overviews of mathematics research in India, I understand, have been prepared by Raghavan Narasimhan, Raghunathan, C S Seshadri and V S Varadarajan. There is a difference between the two: While both are unobtrusive and post facto, the INSA and ISCA reports are based on perceptions of peers -- people who are experts in the field, whereas my reports, prepared by an information professional using scientometric techniques, are based on actual counts of published papers. Together, the two could provide a good insight into what is happening in Indian science.

I know there are several limitations to my study. For one thing, the enormous data could be made to yield much greater insights than I have been able to derive, by applying appropriate statistical techniques -- such as cluster analysis and correspondence analysis. With a little more effort, one could extend the analysis to individual author level and prepare lists of individual researchers' contribution. And with information on citations received by each paper, one could even assess the impact Indian work has had on research world-wide. But these have to wait. For now, we have to be content with some publication indicators!

What is the use of such a study, some may wonder. Surely, the data presented must be of interest to our policy makers. And research scientists can get some guidance on choosing the right journals for publishing their work that would help them win greater recognition and visibility. Students looking for research openings can select the right schools.

This work was carried out with financial assistance from the Department of Science and Technology, Government of India, New Delhi. The *Mathsci* data were provided by the National Centre for Science Information, Indian Institute of Science, Bangalore, where I was an INSA Visiting Fellow for three months in late 1994. Mr G S Sridhar assisted in the preparation of the tables. I owe a special word of thanks to Prof. G V Subba Rao, Director of the Central Electrochemical Research Institute, who gave me all the freedom I needed to pursue my interests, and to Prof. M S Swaminathan who was kind enough to provide me a place to work when I decided to leave my job with the Council of Scientific and Industrial Research after an association lasting for more than three decades.

Subbiah Arunachalam

## Abstract

Unlike in most other fields such as physics, materials science and medicine, Calcutta is the leading Indian city in mathematics research, followed by Bombay, Delhi, Madras and Bangalore. Among the states, West Bengal is the most active, followed by Uttar Pradesh, Maharashtra, Delhi, and Tamil Nadu. Of the 61 subfields in *Mathsci*, Indian researchers have been most actively publishing in statistics, quantum theory, special functions, general topology, and relativity and gravitational theory. In the seven-year period 1988-mid-1995, *Mathsci* had indexed 11,358 papers from Indian addresses including 10,411 articles published in about 720 journals. Of these, 3,997 papers, about 38%, were published in 70 Indian journals. In contrast, 18% of physics papers, 56% of biology papers and 70% of agriculture papers from India are published in local journals. More than 78% of India's mathematics research papers are published by academic institutions, and about 12% by research laboratories under the major science departments. Indian Statistical Institute, Tata Institute of Fundamental Research, University of Calcutta, Indian Institute of Science, and Banaras Hindu University are the leading performers of mathematical research in India. Tata Institute of Fundamental Research, and to some extent Indian Institute of Science, and the Institute of Mathematical Sciences have published some of their papers in high impact journals. High impact journal articles published by Indian mathematicians are mostly in quantum theory, relativity and gravitation, and statistical mechanics. *Communications in Statistics: Theory and Methods* (USA), *Journal of Physics A* (UKD), *Journal of Mathematical Analysis and Applications* (USA), and *Fuzzy Sets and Systems* (NLD) are among the foreign journals used often by Indian researchers. Also shown are the journals often used by leading institutions and the subfields in which different institutions are active.



## Introduction

Mathematics is the basis of modern civilisation, although much of the pursuit of mathematics is without any inkling to the real world, says Professor Basil Gordon of the University of California, Los Angeles. Indeed there is something for everybody to gain from the universal language that is mathematics. Today it is virtually impossible to do advanced level work in any branch of science or engineering or some areas of economics and social sciences without the application of mathematics.

India has a very long tradition of excellence in mathematics and astronomy, dating back to antiquity. In modern times, India has done well in both pure and applied mathematics as well as in the related areas of operations research, statistics, computer science and theoretical physics. Today Indian mathematicians, statisticians and computer scientists are welcome everywhere. India's contribution to the advancement of knowledge in mathematics is fairly well recognised. According to Basil Gordon, Russia and the USA are the top contributors, followed by England, France, Germany and then India and China.

In this part of the overall exercise on mapping Indian science and technology, I have attempted to map India's contribution to the literature of mathematics as seen from the *Mathsci* database. The study identifies the institutions active in publishing, the journals used and their impact factors, the subfields in which India is strong, etc.

In terms of number of papers published, statistics, quantum theory, special functions and topology are the areas of high activity. Indian Statistical Institute, Tata Institute of Fundamental Research, University of Calcutta, and the Indian Institute of Science are the major players. There are also smaller institutions such as the Institute of Mathematical Sciences, Madras, publishing quality work in quality journals.

## Methodology

Bibliographic data on documents originating from Indian institutions were downloaded from the *Mathsci* CD-ROM database, giving "(6-\*)" as the search command under 'IN' (for institution). This search picks out all entries having an Indian address in the by-line irrespective of whether it is the address of the first author, second author or the last author.

The following fields were downloaded for each entry:

Author  
Publication year  
Journal title  
Language  
Subject descriptors  
Document type  
Institution name  
Subfield

Unlike some other CD-ROM databases I am familiar with, downloading data from *Mathsci* for bibliometric purposes is simple and straightforward.

The *Mathsci* database has 61 sections covering such diverse subfields as "History and biography", "Information and communication, circuits", and "Functions of a complex variable". Some subfields relate to fields closely related to mathematics, e.g. Statistics, Computer science, Astronomy and astrophysics, Geophysics, Economics, operations research, programming, games, and Quantum theory.

Impact factors for journals were noted from *Journal Citation Reports* 1992. Please note that not all journals indexed in *Mathsci* are indexed in *Science Citation Index (SCI)* and therefore many *Mathsci* journals are not assigned an impact factor.

The data were analysed and a number of tables were generated using Foxpro version 2.5.

## **Analysis**

In the more than 7 years 1988 - mid-1995 as covered by two CD-ROM discs, *Mathsci* had carried bibliographic information on 11,358 documents published by authors from Indian addresses (Table 1). More than 91% of these were journal articles, and 7.62% of them were papers in conference proceedings. Less than 1% of them were books/chapters in books. Not surprisingly, all but 103 of these were in English (Table 2).

*Delayed coverage* - Considering the tremendous advances, both in accessing information and in communication, it is surprising to see as many as 21 papers published in

1975, seven published in 1977, 17 published in 1978 and 31 published in 1979 being covered in the disc for 1988 - 1992 (Table 3). Again, in the second disc for the period of 1993 - mid 1995, as many as 12 papers have a publication date of 1987 and four are from 1988. There could be two reasons for this delayed coverage: One, this could have been caused by delayed publication of journals, there being a vast difference between their cover date and the actual date of publication. Two, publishers of *Mathsci* might have taken an unduly long time to cover some publications.

*Journals used* - The more than 720 journals used by Indian researchers in the two periods are listed in Table 4, along with the country of origin of the journals and, wherever available, the impact factors of these journals as seen from *Journal Citation Reports* 1992. As not all journals are indexed in *SCI*, not all of them will have an impact factor. In fact, most journals having an impact factor 0.000 in Table 4 are not indexed in *SCI*. Very few journals have an impact factor of 1.0 or more. Of course, unlike in modern biology, mathematics journals are usually of low impact. That is largely to do with the size of the subfields of mathematics and the referencing habits of mathematicians. Even in this list, most of the higher impact journals are not journals devoted to mathematics per se but to related fields like astronomy, physics, crystallography, biometrics and econometrics. A plot of number of journals Vs cumulative number of papers follows the classical sigmoidal curve (Fig. 1).

*Subfields* - Among the 61 subfields, as classified in *Mathsci* database itself, India has published the largest number of papers in statistics. Other areas of considerable interest to Indian researchers include quantum theory, special functions, general topology, relativity and gravitational theory, functions of a complex variable, number theory, and economics, operations research, programming and games (Table 5). Indian researchers have published more than 100 papers each during the seven-year period covered in each of 34 subfields, and less than 10 papers in four subfields. There have been some changes between the two periods in the relative positions of subfields in terms of number of papers published. For example, number theory has moved to the fifth rank from the eighth, and relativity and gravitation theory has slid down to the eleventh from the fifth.

*Use of journals from different countries* - Indian researchers have used more than 700 journals published from 57 countries. A little over 38% of all papers from India have appeared in Indian journals (Table 6). In physics, as seen from *Physics Abstracts* 1992, less than 19% of papers were published in Indian journals. In biology, as seen from



BIOSIS 1993-94, about 56% of Indian research papers have appeared in Indian journals, and in agriculture, as seen from CABI Abstracts 1984-1995, about 70% of the Indian papers have appeared in Indian journals. The vast differences are due to the differences in the communication habits of researchers in different fields and the nature of the fields themselves. The availability of locally published journals and their coverage in international databases also matter.

*Use of Indian journals* - Table 7 lists the 70 Indian journals used by Indian researchers. There are 11 journals which had published more than 100 papers and 14 which had published 50 or more papers but less than 100.

*Prolific institutions* - The individual institutions contributing to mathematics research are listed in Table 8. The number of papers contributed by different types of institutions are given in Table 9. More than 250 institutions have contributed papers in this field. Academic institutions -- universities and colleges -- account for the bulk of mathematics research in India. Tata Institute of Fundamental Research, Bombay; Indian Statistical Institute, Calcutta; University College of Science, Calcutta; Banaras Hindu University, Varanasi; and the Indian Institute of Science, Bangalore are the major players. These are followed by University of Delhi and Indian Institute of Technology, Kanpur.

Some institutions have more than one campus, each carrying out research that can be indexed in *Mathsci*. For example, Tata Institute of Fundamental Research has a centre at the Indian Institute of Science campus in Bangalore, and Indian Statistical Institute has centres in New Delhi, Bangalore and Madras. *Mathsci* has given separate identity to Banaras Hindu University's Institute of Technology.

*Geographic distribution* - The contribution made by different institutions are classified according to city/town and the state (Tables 10 and 11). Calcutta, Bombay, Delhi, Madras, Bangalore and Varanasi are the leading centres of mathematics research in India. Altogether institutions located in 129 cities/towns are involved. Among the states, West Bengal, Uttar Pradesh, Maharashtra, Delhi and Tamil Nadu lead the field with more than 1,000 papers each.

*Journal use by leading institutions* - The journals used by the leading institutions are given in Table 12, in the form of a matrix. The matrix was constructed by considering

the top 27 institutions and the top 52 journals publishing the largest number of papers from India.

*Subfield strengths of institutions* - Table 13 provides data on the number of papers published by leading institutions in different subfields. Tata Institute of Fundamental Research, Bombay, for example, had published in the more than seven years considered 158 papers in number theory, 159 papers in quantum theory, 111 in algebraic geometry, 45 in relativity and gravitation and 40 in nonassociative rings. Indian Statistical Institute, Calcutta, had published 273 papers in statistics and 55 in quantum theory. Institute of Mathematical Sciences, Madras, has been active in number theory (49 papers) and quantum theory (63 papers). Panjab University has reasonably strong activity in statistics and number theory. Rajasthan University has been active in special functions and statistics, and Jadavpur University in partial differential equations. Apart from Indian Statistical Institute, Calcutta, Calcutta University (74), Poona University (67), Lucknow University (60) and Indian Statistical Institute, Delhi (50) have also contributed substantially to the journal literature of statistics. Contributions in the area of economics and operations research have come mainly from three institutions in Delhi, viz., Indian Institute of Technology, Delhi (53), Indian Statistical Institute, Delhi (40), and Delhi University (39).

*Use of high impact journals* - Table 14 provides information in the form of a matrix, on the number of papers published by Indian researchers in different subfields classified by the impact factors of journals used. The impact factors were taken from *JCR* 1992. Most journals with IF = 0.00 are non-*SCI* journals. The high impact journals used by Indian researchers are:

<i>Proceedings of the National Academy of Sciences, USA</i>	1
<i>Physical Review Letters</i>	25
<i>Physics Reports</i>	5
<i>Nuclear Physics B</i>	57
<i>Journal of Computational Chemistry</i>	1
<i>Physics Letters B</i>	85
<i>Astrophysical Journal</i>	2
<i>Plasma Physics</i>	1
<i>Zeitschrift fur Physik C : Particles and Fields</i>	4
<i>Annals of Physics</i>	21
<i>Physical Review D</i>	65
<i>Monthly Notices of the Royal Astronomical Society</i>	6

The use made of journals of different impact factor ranges by the leading institutions is presented in Table 15. The Tata Institute of Fundamental Research and to some extent Institute of Mathematical Sciences and the Indian Institute of Science stand out. Abundant caution is necessary in interpreting the data presented in this table. Different subfields have journals of different impact factor ranges. Information on the use of journals published from different countries in different subfields is provided in Table 16.

## **Conclusion**

A detailed analysis of publications originating in Indian institutions and indexed in the CD-ROM edition of *Mathsci* has been carried out with a view to finding out active institutions, journals used, subfields of intense activity, etc. Together with such analysis of other comprehensive subject-specific secondary services, this study can help map scientific research in India. The insights provided by this mapping exercise should be useful to policy makers and researchers alike. With citation data, one could also extend the scope of this study to performance evaluation and assessment.

Similar studies have been carried out to map India's research efforts in other fields such as physics, materials science and medicine. The reports are under preparation.



## Tables

**Table 1: Document types  
MATHSCI 1988 - mid 95**

SI #	Document type	# of papers			% share
		88-92	93-95	Total	
1	Journal articles	6760	3651	10411	91.66
2	Proceedings-Paper	555	310	865	7.62
3	Book	56	26	82	0.72
Total		7371	3987	11358	100.00

**Table 2: Indian papers covered by MATHSCI 1988 - mid 95  
classified by languages**

SI #	Language	# of papers		
		88-92	93-95	Total
1	English	7283	3972	11255
2	Hindi	78	15	93
3	French	8	-	8
4	Russian	2	-	2
Total		7371	3987	11358

**Table 3: Number of papers published in various years  
as seen from *MATHSCI* 1988 - mid 95**

Sl #	Publi- cation Year	# of papers			Papers %
		88-92	93-95	Total	
1	1975	21	0	21	0.18
2	1977	7	0	7	0.06
3	1978	17	0	17	0.15
4	1979	31	0	31	0.27
5	1980	11	0	11	0.10
6	1981	33	0	33	0.29
7	1982	60	0	60	0.53
8	1983	73	0	73	0.64
9	1984	115	0	115	1.01
10	1985	277	0	277	2.44
11	1986	737	0	737	6.49
12	1987	1241	12	1253	11.03
13	1988	1352	4	1356	11.94
14	1989	1222	37	1259	11.08
15	1990	1112	143	1255	11.05
16	1991	861	459	1320	11.62
17	1992	171	1231	1402	12.34
18	1993	0	1108	1108	9.76
19	1994	0	915	915	8.06
20	1995	0	63	63	0.55
21	1996	0	1*	1	0.01
22	Unknown	30	14	44	0.40
Total		7371	3987	11358	100.00

\* Could be a data entry error!

**Table 4: Journals used by Indian researchers as seen from  
MATHSCI 1988 - mid 95  
(arranged by number of papers)**

Sl #	Journal title	IF 92 <sup>a</sup>	Pub Cou	# of papers		
				1988- 92	1993- 95	Total
1	Indian J. Pure Appl. Math.	0.060	IND	323	134	457
2	Math. Student	0.000	IND	202	56	258
3	Bull. Calcutta Math. Soc.	0.000	IND	161	91	252
4	Comm. Statist. Theory Methods	0.142	USA	123	65	188
5	J. Indian Math. Soc. (N.S.)	0.000	IND	106	80	186
6	J. Phys. A	2.189	UKD	112	61	173
7	J. Math. Phys. Sci.	0.000	IND	123	42	165
8	J. Math. Anal. Appl.	0.291	USA	90	67	157
9	Fuzzy Sets and Systems	0.712	NLD	59	96	155
10	Astrophys. and Space Sci.	0.325	NLD	115	22	137
11	Proc. Nat. Acad. Sci. India Sect. A	0.000	IND	93	40	133
12	Math. Ed. (Siwan)	0.000	IND	90	42	132
13	Proc. Indian Acad. Sci. Math. Sci.	0.170	IND	75	57	132
14	J. Math. Phys.	0.880	USA	79	47	126
15	Calcutta Statist. Assoc. Bull.	0.000	IND	69	52	121
16	Modern Phys. Lett. A	1.470	SGP	57	63	120
17	Ganita	0.000	IND	89	27	116
18	Phys. Lett. A	1.135	NLD	75	40	115
19	Sankhya Ser. A	0.224	IND	49	64	113
20	Tamkang J. Math.	0.000	TWN	81	29	110
21	Indian J. Math.	0.000	IND	76	29	105
22	Pure Appl. Math. Sci.	0.000	IND	79	19	98
23	J. Indian Acad. Math.	0.000	IND	63	32	95
24	Internat. J. Math. Math. Sci.	0.000	USA	63	30	93
25	Sankhya Ser. B	0.013	IND	64	28	92
26	Vijnana Parishad Anusandhan Patrika	0.000	IND	78	14	92
27	Soochow J. Math.	0.000	TWN	46	45	91
28	J. Indian Statist. Assoc.	0.000	IND	57	32	89
29	Internat. J. Theoret. Phys.	0.377	USA	61	26	87
30	Phys. Lett. B	3.438	NLD	50	35	85
31	J. Statist. Plann. Inference	0.398	NLD	49	33	82
32	J. Indian Soc. Agricultural Statist.	0.000	IND	61	18	79
33	Pure Math. Manuscript	0.000	IND	44	30	74
34	Internat. J. Systems Sci.	0.155	UKD	60	13	73
35	Statist. Probab. Lett.	0.347	NLD	29	39	68

Table 4 contd.

36	Math. Soc.	0.000	NLD	65	0	65
37	Phys. Rev. D (3)	2.587	USA	48	17	65
38	Proc. Amer. Math. Soc.	0.263	USA	32	33	65
39	Linear Algebra Appl.	0.374	USA	39	21	60
40	Internat. J. Modern Phys. A	1.369	SGP	28	31	59
41	Nuclear Phys. B	5.450	NLD	29	28	57
42	Inform. Sci.	0.248	USA	27	29	56
43	Math. Today	0.000	IND	32	23	55
44	Jnanabha	0.000	IND	39	14	53
45	Progr. Math. (Varanasi)	0.000	IND	42	10	52
46	Bull. Inst. Math. Acad. Sinica	0.000	TWN	38	14	52
47	Inform. Process. Lett.	0.252	NLD	33	19	52
48	Classical Quantum Gravity	1.442	UKD	37	14	51
49	Gen. Relativity Gravitation	0.758	USA	31	20	51
50	IAPQR Trans.	0.000	IND	45	5	50
51	J. Bihar Math. Soc.	0.000	IND	45	5	50
52	Opsearch	0.000	IND	41	9	50
53	Proc. Math. Soc.	0.000	IND	15	33	48
54	Ganita Sandesh	0.000	IND	36	12	48
55	Phys. Rev. A (3)	2.157	USA	36	10	46
56	J. Pure Math.	0.000	IND	23	22	45
57	J. Ramanujan Math. Soc.	0.000	IND	28	15	43
58	J. Nat. Acad. Math. India	0.000	IND	42	0	42
59	J. Orissa Math. Soc.	0.000	IND	42	0	42
60	J. Optim. Theory Appl.	0.321	USA	27	14	41
61	Math. Ed.	0.000	IND	35	6	41
62	Nat. Acad. Sci. Lett.	0.030	IND	32	9	41
63	Bull. Austral. Math. Soc.	0.182	AUS	31	10	41
64	Demonstratio Math.	0.000	POL	26	15	41
65	J. Statist. Res.	0.000	BGD	26	12	38
66	Vikram Math. J.	0.000	IND	19	19	38
67	J. Fuzzy Math.	0.000	USA	0	37	37
68	Math. Japon.	0.000	JPN	26	10	36
69	Comput. Math. Appl.	0.288	UKD	20	16	36
70	Acta Cienc. Indica Math.	0.000	IND	35	0	35
71	Metron	0.000	ITA	21	14	35
72	Statistica (Bologna)	0.000	ITA	24	11	35
73	Utilitas Math.	0.071	CAN	22	12	34
74	Comm. Algebra	0.269	USA	16	17	33
75	Ann. Inst. Statist. Math.	0.396	USA	20	12	32
76	J. Maulana Azad College Tech.	0.000	IND	23	9	32
77	Optimization	0.000	CHE	10	22	32
78	J. Indian Inst. Sci.	0.000	IND	30	1	31
79	J. Number Theory	0.371	USA	17	13	30
80	Metrika	0.000	DEU	21	9	30



Table 4 contd.

81	Ranchi Univ. Math. J.	0.000	IND	30	0	30
82	Acta Arith.	0.280	POL	18	12	30
83	Gujarat Statist. Rev.	0.000	IND	30	0	30
84	Istanbul Univ. Fen Fak. Mecm. Ser. A	0.000	TUR	30	0	30
85	J. Approx. Theory	0.385	USA	26	4	30
86	Acta Math. Hungar.	0.139	HUN	17	12	29
87	Appl. Math. Comput.	0.208	USA	16	13	29
88	Ganita Bharati	0.000	IND	19	10	29
89	Statistics	0.000	ITA	18	10	28
90	J. Inform. Optim. Sci.	0.000	IND	16	11	27
91	Kyungpook Math. J.	0.000	KOR	14	13	27
92	Nepali Math. Sci. Rep.	0.000	NPL	18	9	27
93	Sci. Phys. Sci.	0.000	IND	25	2	27
94	Univ. Nac. Tucuman Rev. Ser. A	0.000	ARG	10	17	27
95	J. Combin. Inform. System Sci.	0.000	IND	23	4	27
96	J. Algebra	0.402	USA	17	9	26
97	J. Appl. Probab.	0.437	UKD	15	11	26
98	Bull. Math. Soc. Sci. Math. R. S. Roumanie (N.S.)	0.000	ROM	15	10	25
99	Discrete Math.	0.162	NLD	13	12	25
100	Internat. J. Engrg. Sci.	0.000	UKD	15	10	25
101	J. Austral. Math. Soc. Ser. A	0.340	AUS	17	8	25
102	Phys. Rev. Lett.	7.375	USA	15	10	25
103	Aligarh J. Statist.	0.000	IND	15	9	24
104	Biometrical J.	0.000	DEU	17	7	24
105	Austral. J. Statist.	0.000	AUS	13	10	23
106	J. Multivariate Anal.	0.331	USA	19	4	23
107	Mat. Vesnik	0.000	YUG	17	5	22
108	Math. Ann.	0.493	DEU	16	6	22
109	Publ. Inst. Math. (Beograd) (N.S.)	0.000	YUG	15	7	22
110	Biometrika	0.926	UKD	19	3	22
111	J. Austral. Math. Soc. Ser. B	0.349	AUS	8	14	22
112	Ann. Physics	2.608	USA	15	6	21
113	Arch. Math. (Basel)	0.283	CHE	14	7	21
114	Ars Combin.	0.217	CAN	14	7	21
115	Internat. J. Management Systems	0.000	IND	21	0	21
116	Period. Math. Hungar.	0.000	HUN	16	5	21
117	Nonlinear Anal.	0.390	UKD	15	5	20
118	Theoret. Comput. Sci.	0.285	NLD	11	9	20
119	An. Stiint. Univ. "Al. I. Cuza" Iasi Sect. I a Mat.	0.000	ROM	0	20	20
120	Compositio Math.	0.354	NLD	13	7	20
121	J. Comput. Appl. Math.	0.320	NLD	14	5	19
122	Math. Balkanica (N.S.)	0.000	BGR	1	18	19
123	Z. Angew. Math. Mech.	0.174	DEU	13	6	19
124	Publ. Math. Debrecen	0.038	HUN	8	9	17
125	Southeast Asian Bull. Math.	0.000	PRC	10	7	17

Table 4 contd.

126	An. Stiint. Univ. "Al. I. Cuza" Iasi Sect. I a Mat. (N.S.)	0.000	ROM	15	2	17
127	Cahiers Centre Etudes Rech. Oper.	0.000	BEL	12	5	17
128	Congr. Numer.	0.000	CAN	11	6	17
129	Fortschr. Phys.	1.180	DEU	9	8	17
130	Hardy Ramanujan J.	0.000	IND	13	4	17
131	Indian J. Hist. Sci.	0.000	IND	14	3	17
132	Internat. J. Math. Ed. Sci. Tech.	0.000	UKD	7	10	17
133	Invent. Math.	0.957	DEU	14	3	17
134	Comm. Fac. Sci. Univ. Ankara Ser. A\$\\sb 1\$ Math. Statist.	0.000	TUR	14	2	16
135	Ganit	0.000	IND	15	1	16
136	Riv. Mat. Univ. Parma (4)	0.000	ITA	12	4	16
137	Ultra Sci. Phys. Sci.	0.000	IND	0	16	16
138	J. Reine Angew. Math.	0.642	DEU	9	6	15
139	J. Sci. Res.	0.000	IND	15	0	15
140	Mathematica (Cluj)	0.000	ROM	8	7	15
141	Simon Stevin	0.000	BEL	7	8	15
142	Statist. Decisions	0.000	DEU	5	10	15
143	Asia Pacific J. Oper. Res.	0.143	SGP	10	5	15
144	Canad. J. Phys.	0.461	CAN	13	2	15
145	Colloq. Math.	0.000	POL	10	5	15
146	Comm. Math. Phys.	1.942	USA	9	6	15
147	Complex Variables Theory Appl.	0.000	CHE	8	7	15
148	Appl. Math. Lett.	0.000	USA	14	0	14
149	C. R. Acad. Sci. Paris Ser. I Math.	0.373	FRA	8	6	14
150	Control Theory Adv. Tech.	0.315	JPN	10	4	14
151	Econom. Lett.	0.000	NLD	12	2	14
152	Far East J. Math. Sci.	0.000	IND	0	14	14
153	Glas. Mat. Ser. III	0.000	YUG	9	5	14
154	J. Appl. Math. Stochastic Anal.	0.000	USA	7	7	14
155	Hadronic J.	0.000	USA	7	6	13
156	J. Funct. Anal.	0.735	USA	10	3	13
157	J. Modern Opt.	0.807	UKD	9	4	13
158	J. Natur. Phys. Sci.	0.000	IND	5	8	13
159	Kybernetika (Prague)	0.146	CSK	10	3	13
160	Math. Comput. Modelling	0.237	UKD	8	5	13
161	Math. Proc. Cambridge Philos. Soc.	0.324	UKD	8	5	13
162	Numer. Funct. Anal. Optim.	0.228	USA	8	5	13
163	Pacific J. Math.	0.293	USA	7	6	13
164	Phys. Scripta	0.878	SWE	7	6	13
165	Rend. Mat. Appl. (7)	0.000	ITA	5	8	13
166	Stochastic Anal. Appl.	0.327	USA	10	3	13
167	J. Karnatak Univ. Sci.	0.000	IND	12	0	12
168	J. Pure Appl. Algebra	0.293	NLD	8	4	12
169	J. Statist. Phys.	1.424	USA	10	2	12
170	Lett. Math. Phys.	0.015	NLD	7	5	12

Table 4 contd.

171	Math. Chronicle	0.000	NZL	9	3	12
172	Math. Z.	0.396	DEU	10	2	12
173	Oper. Res. Lett.	0.241	NLD	6	6	12
174	Appl. Anal.	0.000	CHE	9	3	12
175	Czechoslovak Math. J.	0.132	CSK	6	6	12
176	Houston J. Math.	0.163	USA	8	4	12
177	IEEE Trans. Circuits and Systems	0.756	USA	12	0	12
178	Acta Mech.	0.411	AUT	9	2	11
179	Adv. in Appl. Probab.	0.853	UKD	10	1	11
180	Ann. Polon. Math.	0.000	POL	7	4	11
181	Chinese J. Math.	0.000	PRC	9	2	11
182	J. Math. Res. Exposition	0.000	PRC	6	5	11
183	J. Phys. Soc. Japan	1.881	JPN	8	3	11
184	Linear and Multilinear Algebra	0.000	CHE	7	4	11
185	Naval Res. Logist.	0.377	USA	10	1	11
186	Portugal. Math.	0.000	PRT	9	2	11
187	Riv. Mat. Univ. Parma (5)	0.000	ITA	0	11	11
188	Sequential Anal.	0.000	USA	5	6	11
189	Tensor (N.S.)	0.000	JPN	5	6	11
190	Z. Angew. Math. Phys.	0.311	CHE	1	10	11
191	J. Indian Soc. Statist. Oper. Res.	0.000	IND	8	2	10
192	Nuovo Cimento B (11)	0.408	ITA	7	3	10
193	Proc. Edinburgh Math. Soc. (2)	0.256	UKD	6	4	10
194	Quart. Appl. Math.	0.372	USA	6	4	10
195	Semigroup Forum	0.275	USA	5	5	10
196	Acta Phys. Hungar.	0.000	HUN	10	0	10
197	Anal. Math.	0.000	HUN	5	5	10
198	Ann. Statist.	1.235	USA	2	8	10
199	Ann. Univ. Mariae Curie Sklodowska Sect A	0.000	POL	9	1	10
200	BIT	0.346	DNK	10	0	10
201	Bull. Allahabad Math. Soc.	0.000	IND	10	0	10
202	Canad. J. Math.	0.304	CAN	7	3	10
203	Comm. Statist. Simulation Comput.	0.177	USA	6	4	10
204	Fibonacci Quart.	0.102	USA	5	5	10
205	Graphs Combin.	0.181	JPN	4	6	10
206	IEEE Trans. Comput.	1.208	USA	3	7	10
207	Indag. Math. (N.S.)	0.106	NLD	1	9	10
208	Internat. J. Control	0.669	UKD	8	2	10
209	Bull. Math. Biol.	0.875	USA	9	0	9
210	Bull. Soc. Math. Belg. Ser. B	0.000	BEL	5	4	9
211	Canad. Math. Bull.	0.156	CAN	8	1	9
212	Current Sci.	0.253	IND	0	9	9
213	Duke Math. J.	0.543	USA	4	5	9
214	IEEE Trans. Automat. Control	0.994	USA	1	8	9
215	IEEE Trans. Systems Man Cybernet.	0.655	USA	6	3	9

Table 4 contd.

216	Math. Social Sci.	0.378	NLD	8	1	9
217	Proc. Indian Nat. Sci. Acad. Part A	0.000	IND	9	0	9
218	Rad. Mat.	0.000	YUG	8	1	9
219	Rocky Mountain J. Math.	0.155	USA	4	5	9
220	Studia Sci. Math. Hungar.	0.000	HUN	7	2	9
221	Topology Appl.	0.276	NLD	6	3	9
222	J. Graph Theory	0.225	USA	5	3	8
223	Manuscripta Math.	0.276	DEU	5	3	8
224	Math. Programming	0.921	NLD	5	3	8
225	Phys. A	1.354	NLD	3	5	8
226	Phys. D	1.970	USA	6	2	8
227	Queueing Systems Theory Appl.	0.000	CHE	4	4	8
228	Real Anal. Exchange	0.000	USA	5	3	8
229	SIAM J. Comput.	0.559	USA	3	5	8
230	SIAM J. Control Optim.	0.815	USA	3	5	8
231	Serdica	0.000	BGR	5	3	8
232	Trans. Amer. Math. Soc.	0.513	USA	4	4	8
233	Acta Sci. Math. (Szeged)	0.000	HUN	4	4	8
234	Ann. Physik (7)	0.375	DEU	8	0	8
235	Boll. Un. Mat. Ital. A (7)	0.000	ITA	3	5	8
236	Bull. Malaysian Math. Soc. (2)	0.000	MYS	6	2	8
237	Comm. Statist. A Theory Methods	0.000	USA	8	0	8
238	Hadronic J. Suppl.	0.000	USA	5	3	8
239	Internat. J. Non Linear Mech.	0.515	UKD	5	3	8
240	J. Fract. Calc.	0.000	JPN	1	7	8
241	Acta Appl. Math.	0.259	NLD	2	5	7
242	Ann. Acad. Sci. Fenn. Ser. A I Math.	0.219	FIN	3	4	7
243	Automatica J. IFAC	0.000	UKD	4	3	7
244	Bull. London Math. Soc.	0.286	UKD	5	2	7
245	Comm. Numer. Methods Engrg.	0.000	USA	0	7	7
246	Control Cybernet.	0.000	POL	3	4	7
247	Discrete Appl. Math.	0.296	NLD	3	4	7
248	European J. Oper. Res.	0.333	NLD	7	0	7
249	Geom. Dedicata	0.435	NLD	3	4	7
250	Inform. and Comput.	0.513	USA	4	3	7
251	J. Anal.	0.000	IND	0	7	7
252	J. Combin. Theory Ser. A	0.552	USA	5	2	7
253	J. Econom. Theory	0.000	USA	5	2	7
254	J. Operator Theory	0.000	ROM	4	3	7
255	J. Roy. Statist. Soc. Ser. B	1.958	UKD	2	5	7
256	J. Sound Vibration	0.751	UKD	4	3	7
257	Mathematika	0.694	UKD	3	4	7
258	Nieuw Arch. Wisk. (4)	0.000	NLD	3	4	7
259	Numer. Methods Partial Differential Equations	0.000	USA	5	2	7
260	Pakistan J. Statist.	0.000	PAK	6	1	7

Table 4 contd.

261	Progr. Theoret. Phys.	1.446	JPN	6	1	7
262	Sadhana	0.026	IND	2	5	7
263	South African Statist. J.	0.214	ZAF	6	1	7
264	Stochastic Process. Appl.	0.492	NLD	5	2	7
265	Stud. Appl. Math.	0.381	USA	4	3	7
266	Tohoku Math. J. (2)	0.282	JPN	5	2	7
267	Yokohama Math. J.	0.000	JPN	3	4	7
268	J. Korean Statist. Soc.	0.000	KOR	4	2	6
269	J. London Math. Soc. (2)	0.381	UKD	2	4	6
270	J. Math. Biol.	0.872	USA	6	0	6
271	J. Univ. Kuwait Sci.	0.037	KWT	6	0	6
272	Libertas Math.	0.000	CAN	3	3	6
273	Math. Biosci.	0.546	USA	4	2	6
274	Monthly Notices Roy. Astronom. Soc.	2.579	UKD	6	0	6
275	Oper. Res.	0.747	USA	5	1	6
276	Pattern Recognition	0.661	UKD	6	0	6
277	Probab. Theory Related Fields	0.371	DEU	5	1	6
278	Proc. Roy. Soc. Edinburgh Sect. A	0.451	UKD	6	0	6
279	Publ. Res. Inst. Math. Sci.	0.293	JPN	2	4	6
280	Quart. J. Mech. Appl. Math.	0.567	UKD	4	2	6
281	Rend. Circ. Mat. Palermo (2)	0.000	ARG	6	0	6
282	Rev. Roumaine Math. Pures Appl.	0.000	ROM	2	4	6
283	Rev. Tecn. Fac. Ingr. Univ. Zulia	0.000	VEN	5	1	6
284	Signal Process.	0.324	USA	6	0	6
285	Transport Theory Statist. Phys.	0.000	USA	5	1	6
286	Zeszyty Nauk. Politech. Rzeszowskiej Mat. Fiz.	0.000	POL	1	5	6
287	Acta Math. Vietnam.	0.000	VNM	4	2	6
288	Aligarh Bull. Math.	0.000	IND	6	0	6
289	Amer. J. Math.	0.333	USA	2	4	6
290	Arch. Math. (Brno)	0.000	CSK	2	4	6
291	Artificial Intelligence	2.055	NLD	4	2	6
292	C. R. Acad. Bulgare Sci.	0.000	BGR	6	0	6
293	Comment. Math. Prace Mat.	0.000	POL	6	0	6
294	Comput. Methods Appl. Mech. Engrg.	0.868	NLD	5	1	6
295	Comput. and Structures	0.298	USA	4	2	6
296	Differential Integral Equations	0.000	USA	4	2	6
297	Enseign. Math. (2)	0.000	CHE	3	3	6
298	Estadistica	0.000	PAN	6	0	6
299	European J. Combin.	0.376	UKD	4	2	6
300	IMA J. Numer. Anal.	0.456	UKD	6	0	6
301	Indian J. Pure Appl. Phys.	0.132	IND	3	3	6
302	Internat. J. Game Theory	0.571	DEU	6	0	6
303	Inverse Problems	0.764	USA	5	1	6
304	J. Algorithms	0.545	USA	2	4	6
305	J. Comput. Phys.	1.208	USA	4	2	6



Table 4 contd.

306	Acta Math. Sci. (English Ed.)	0.043	PRC	3	2	5
307	Acta Phys. Polon. B	0.461	POL	5	0	5
308	Amer. Math. Monthly	0.193	USA	4	1	5
309	Appl. Math. Optim.	0.508	USA	4	1	5
310	Dynam. Systems Appl.	0.000	USA	0	5	5
311	Exposition. Math.	0.000	DEU	2	3	5
312	Games Econom. Behav.	0.000	USA	2	3	5
313	IEEE Trans. Inform. Theory	1.230	USA	3	2	5
314	Internat. J. Bifur. Chaos Appl. Sci. Engrg.	0.000	SGP	2	3	5
315	Internat. J. Electron.	0.305	UKD	5	0	5
316	Internat. J. Modern Phys. D	0.000	SGP	0	5	5
317	Investigacion Oper.	0.000	CUB	4	1	5
318	J. Algebraic Geom.	0.000	HKG	1	4	5
319	J. Amer. Statist. Assoc.	1.603	USA	1	4	5
320	J. Inst. Math. Comput. Sci. Math. Ser.	0.000	IND	1	4	5
321	J. Theoret. Probab.	0.000	USA	3	2	5
322	Math. Notae	0.000		5	0	5
323	Math. Scand.	0.155	DNK	3	2	5
324	Mech. Res. Comm.	0.241	USA	3	2	5
325	Nederl. Akad. Wetensch. Indag. Math.	0.000	NLD	5	0	5
326	Parallel Comput.	0.450	NLD	2	3	5
327	Phys. Rep.	6.200	NLD	3	2	5
328	Proc. Einstein Found. Internat.	0.000	IND	5	0	5
329	Rend. Istit. Mat. Univ. Trieste	0.000	ITA	0	5	5
330	Rend. Sem. Mat. Univ. Padova	0.000	ITA	5	0	5
331	SIAM J. Matrix Anal. Appl.-	0.686	USA	3	2	5
332	SIAM J. Numer. Anal.	0.973	USA	3	2	5
333	Statist. Papers	0.000	DEU	0	5	5
334	Systems Control Lett.	0.758	NLD	3	2	5
335	Systems Sci.	0.000	POL	3	2	5
336	Z. Anal. Anwendungen	0.000	DEU	0	5	5
337	Z. Oper. Res.	0.000	DEU	2	3	5
338	Zb. Rad. Prirod. Mat. Fak. Ser. Mat.	0.000	YUG	0	5	5
339	J. Geom.	0.000	CHE	4	0	4
340	J. Integral Equations Appl.	0.000	USA	3	1	4
341	J. Japan Statist. Soc.	0.000	JPN	2	2	4
342	J. Pure Appl. Sci.	0.000	TUR	4	0	4
343	Matematiche (Catania)	0.000	ITA	1	3	4
344	Mem. Fac. Sci. Kochi Univ. Ser. A Math.	0.000	JPN	1	3	4
345	Modern Phys. Lett. B	0.000	SGP	2	2	4
346	Monatsh. Math.	0.250	AUT	2	2	4
347	OR Spektrum	0.058	USA	3	1	4
348	Panamer. Math. J.	0.000	USA	0	4	4
349	Probab. Math. Statist.	0.000	POL	3	1	4
350	Proc. Japan Acad. Ser. A Math. Sci.	0.203	JPN	4	0	4

Table 4 contd.

351	Quaestiones Math.	0.000	ZAF	2	2	4
352	Rev. Mat. Iberoamericana	0.000	ESP	2	2	4
353	Rev. Math. Phys.	0.000	SGP	1	3	4
354	SIAM J. Math. Anal.	0.585	USA	3	1	4
355	Statist. Neerlandica	0.000	NLD	4	0	4
356	Studia Univ. Babes Bolyai Math.	0.000	ROM	4	0	4
357	Z. Phys. C	2.647	DEU	2	2	4
358	Amer. J. Math. Management Sci.	0.000	USA	2	2	4
359	Anal. Numer. Theor. Approx.	0.000	FIN	3	1	4
360	Analysis	0.000	FRA	2	2	4
361	Ann. Inst. H. Poincare Phys. Theor.	0.570	FRA	3	1	4
362	Ann. of Math. (2)	1.831	USA	2	2	4
363	Appl. Numer. Math.	0.280	NLD	3	1	4
364	Appl. Sci. Res.	0.452	NLD	4	0	4
365	Approx. Theory Appl. (N.S.)	0.000	PRC	0	4	4
366	Ark. Mat.	0.395	CHE	2	2	4
367	Asterisque	0.169	FRA	1	3	4
368	Atti Sem. Mat. Fis. Univ. Modena	0.000	ITA	3	1	4
369	Bull. Math. Assoc. India	0.000	IND	1	3	4
370	Bull. Un. Mat. Ital. B (7)	0.104	ITA	0	4	4
371	Circuits Systems Signal Process.	0.263	USA	3	1	4
372	Collect. Math.	0.000	ESP	2	2	4
373	Comm. Appl. Numer. Methods	0.287	UKD	3	1	4
374	Ergodic Theory Dynamical Systems	0.454	UKD	3	1	4
375	Extracta Math.	0.000	ESP	0	4	4
376	Found. Phys.	0.716	USA	2	2	4
377	Glasgow Math. J.	0.250	UKD	2	2	4
378	Helv. Phys. Acta	0.444	CHE	3	1	4
379	Inst. Hautes Etudes Sci. Publ. Math.	0.000	FRA	3	1	4
380	Integral Equations Operator Theory	0.316	CHE	0	4	4
381	Internat. J. Inform. Management Sci.	0.000	TWN	1	3	4
382	Israel J. Math.	0.238	ISR	1	3	4
383	Istanbul Univ. Fen Fak. Mat. Derg.	0.000	TUR	0	4	4
384	J. Assam Sci. Soc.	0.000	IND	0	4	4
385	J. College Engrg. Nihon Univ. Ser. B	0.000	JPN	1	3	4
386	\$K\$ Theory	0.000	NLD	1	2	3
387	Acta Inform.	0.491	DEU	1	2	3
388	Algebra Universalis	0.163	CAN	3	0	3
389	Ann. Scuola Norm. Sup. Pisa Cl. Sci. (4)	0.000	ITA	3	0	3
390	Ann. Univ. Sci. Budapest. Eotvos Sect. Math.	0.000	HUN	3	0	3
391	Appl. Math. Modelling	0.318	USA	3	0	3
392	Approx. Theory Appl.	0.000	PRC	2	1	3
393	Arch. Rational Mech. Anal.	1.108	DEU	1	2	3
394	Asymptotic Anal.	0.000	NLD	0	3	3
395	Boll. Un. Mat. Ital. B (7)	0.000	ITA	3	0	3

Table 4 contd.

396	Bull. Fukuoka Univ. Ed. III	0.000	JPN	3	0	3
397	Bull. Inform. Cybernet.	0.000	JPN	1	2	3
398	Bull. Sci. Math. (2)	0.511	FRA	2	1	3
399	Bull. Vijnana Parishad India	0.000	IND	0	3	3
400	C. R. Math. Rep. Acad. Sci. Canada	0.000	CAN	1	2	3
401	Canad. J. Statist.	0.383	CAN	1	2	3
402	Caribbean J. Math.	0.000	BRB	3	0	3
403	Celestial Mech. Dynam. Astronom.	0.000	NLD	1	2	3
404	Chaos Solitons Fractals	0.000	UKD	0	3	3
405	Comm. Partial Differential Equations	0.485	USA	3	0	3
406	Comment. Math. Helv.	0.662	CHE	2	1	3
407	Comput. Aided Geom. Design	0.000	NLD	1	2	3
408	Comput. Artificial Intelligence	0.100	CSK	2	1	3
409	Comput. Phys. Comm.	1.503	NLD	2	1	3
410	Computing	0.315	USA	1	2	3
411	Discrete Comput. Geom.	0.750	USA	0	3	3
412	Egyptian Statist. J.	0.000	EGY	1	2	3
413	Found. Phys. Lett.	0.541	USA	3	0	3
414	Fund. Math.	0.244	POL	2	1	3
415	IMA J. Math. Appl. Med. Biol.	0.455	UKD	3	0	3
416	IMA J. Math. Control Inform.	0.204	UKD	3	0	3
417	Internat. J. Found. Comput. Sci.	0.000	SGP	1	2	3
418	Internat. J. Modern Phys. B	0.000	SGP	3	0	3
419	Internat. J. Numer. Methods Fluids	0.597	UKD	2	1	3
420	Istanbul Tek. Univ. Bul.	0.000	TUR	3	0	3
421	J. Combin. Theory Ser. B	0.415	USA	1	2	3
422	J. Differential Geom.	1.296	USA	1	2	3
423	J. Elasticity	0.453	NLD	2	1	3
424	J. Fluid Mech.	1.606	USA	3	0	3
425	J. Math. Sociol.	0.407	USA	3	0	3
426	J. Nonparametr. Statist.	0.000	CHE	0	3	3
427	J. Theoret. Biol.	1.174	UKD	3	0	3
428	J. Uttar Pradesh Gov. Colleges Acad. Soc	0.000	IND	3	0	3
429	Kodai Math. J.	0.000	JPN	2	1	3
430	Kybernetes	0.225	UKD	2	1	3
431	Math. Comp.	0.812	USA	1	2	3
432	Math. J. Toyama Univ.	0.000	JPN	1	2	3
433	Math. Nachr.	0.225	DEU	2	1	3
434	Math. Oper. Res.	1.101	USA	1	2	3
435	Math. Sci.	0.000	UKD	2	1	3
436	Nonlinear World	0.000	DEU	0	3	3
437	Note Mat.	0.000	ITA	0	3	3
438	Nuovo Cimento A (11)	0.495	ITA	3	0	3
439	Optimal Control Appl. Methods	0.180	UKD	2	1	3
440	Osaka J. Math.	0.261	JPN	2	1	3

Table 4 contd.

441	Phys. Fluids A	1.326	USA	2	1	3
442	Proc. London Math. Soc. (3)	0.649	UKD	3	0	3
443	Proc. Roy. Soc. London Ser. A	1.673	UKD	2	1	3
444	RAIRO Inform. Theor. Appl.	0.267	FRA	2	1	3
445	Rebrape	0.000	BRA	1	2	3
446	Rend. Accad. Naz. Sci. XL Mem. Mat. (5)	0.000	ITA	2	1	3
447	Rend. Mat. (7)	0.000	ITA	3	0	3
448	Rev. Acad. Canaria Cienc.	0.000	BRA	0	3	3
449	Rev. Econom. Stud.	0.000	UKD	2	1	3
450	SIAM J. Discrete Math.	0.637	USA	1	2	3
451	Scand. Actuar. J.	0.000	NOR	2	1	3
452	Scand. J. Statist.	0.396	UKD	2	1	3
453	Soc. Choice Welf.	0.000	USA	0	3	3
454	Statist. Hefte	0.000	DEU	3	0	3
455	Stochastics	0.000	ESP	3	0	3
456	Surikaiseikikenkyusho Kokyuroku	0.000	JPN	1	2	3
457	Tamkang J. Management Sci.	0.000	TWN	3	0	3
458	Translation: Theoret. and Math. Phys.	0.257	USA	0	3	3
459	Univ. Ulsan Rep.	0.000	KOR	3	0	3
460	J. Fuzhou Univ. Nat. Sci. Ed.	0.000	PRC	0	2	2
461	J. Guidance Control Dynamics	0.487	USA	2	0	2
462	J. Math. Chem.	0.000	CHE	2	0	2
463	J. Math. Econom.	0.509	NLD	2	0	2
464	J. Math. Soc. Japan	0.253	JPN	2	0	2
465	J. Math. Systems Estim. Control	0.000	USA	0	2	2
466	J. Oper. Res. Soc. Japan	0.160	JPN	0	2	2
467	J. Physique	1.206	FRA	2	0	2
468	J. Statist. Comput. Simulation	0.000	USA	2	0	2
469	Japan. J. Math. (N.S.)	0.000	JPN	2	0	2
470	Kobe J. Math.	0.000	JPN	2	0	2
471	Math. Comput. Simulation	0.261	NLD	2	0	2
472	Math. Methods Appl. Sci.	0.321	DEU	1	1	2
473	Math. Modelling	0.000	USA	2	0	2
474	Michigan Math. J.	0.253	USA	0	2	2
475	Modern Logic	0.000	USA	0	2	2
476	Nagoya Math. J.	0.341	JPN	1	1	2
477	Networks	0.607	USA	2	0	2
478	New Zealand J. Math.	0.000	NZL	0	2	2
479	Nihonkai Math. J.	0.000	JPN	0	2	2
480	Numer. Math.	0.667	DEU	2	0	2
481	Nuovo Cimento D (1)	0.404	ITA	1	1	2
482	Phys. Fluids	0.000	USA	1	1	2
483	Phys. Fluids B	1.944	USA	1	1	2
484	Phys. Rev. C (3)	1.873	USA	2	0	2
485	Proc. IEE D	0.000	UKD	2	0	2

Table 4 contd.

486	Publ. Mat.	0.000	ESP	0	2	2
487	Rend. Sem. Mat. Univ. Politec. Torino	0.000	ITA	1	1	2
488	Rep. Statist. Appl. Res. Un. Japan. Sci. Engrs.	0.000	JPN	1	1	2
489	Rev. Acad. Cienc. Zaragoza (2)	0.000	ESP	0	2	2
490	Rev. Colombiana Mat.	0.000	COL	1	1	2
491	Riv. Nuovo Cimento (3)	1.348	ITA	2	0	2
492	SIAM J. Appl. Math.	0.887	USA	2	0	2
493	SIAM J. Sci. Statist. Comput.	0.854	USA	2	0	2
494	Sci. Comput. Programming	0.250	NLD	1	1	2
495	Stochastics Stochastics Rep.	0.000	CHE	2	0	2
496	Teor. Primen. Meh.	0.000	YUG	2	0	2
497	Test	0.000	ESP	0	2	2
498	Trabajos Estadist. Investigacion Oper.	0.000	ESP	2	0	2
499	Trans. ASME J. Appl. Mech.	0.686	USA	2	0	2
500	Turkish J. Math.	0.000	TUR	0	2	2
501	Univ. u Novom Sadu Zb. Rad. Prirod. Mat. Fak. Ser. Mat.	0.000	YUG	2	0	2
502	Z. Naturforsch. A	0.783	DEU	2	0	2
503	Acta Cryst. Sect. A	2.409	DNK	1	1	2
504	Acta Math. Univ. Comenian.	0.000	CSK	2	0	2
505	Acta Sci. Natur. Univ. Jilin.	0.000	PRC	2	0	2
506	Aequationes Math.	0.000	CHE	1	1	2
507	Algebra Colloq.	0.000	PRC	0	2	2
508	Algorithmica	0.513	USA	1	1	2
509	Amer. J. Phys.	0.563	USA	1	1	2
510	An. Univ. Timisoara Ser. Stiint. Mat.	0.000	ROM	0	2	2
511	Ann. Appl. Probab.	0.000	USA	0	2	2
512	Ann. Mat. Pura Appl. (4)	0.229	ITA	2	0	2
513	Ann. Oper. Res.	0.000	CHE	1	1	2
514	Ann. Probab.	0.734	USA	1	1	2
515	Astrophys. J.	2.931	USA	2	0	2
516	Austral. J. Phys.	0.655	AUS	2	0	2
517	British J. Math. Statist. Psych.	0.489	UKD	2	0	2
518	Bul. Univ. Brasov Ser. C	0.000	ROM	2	0	2
519	Bull. Amer. Math. Soc. (N.S.)	0.857	USA	2	0	2
520	Bull. Fac. School Ed. Hiroshima Univ. Part II	0.000	JPN	2	0	2
521	Bull. Iranian Math. Soc.	0.000	IRN	2	0	2
522	Bull. Number Theory Related Topics	0.000		2	0	2
523	Bull. Soc. Math. Grece (N.S.)	0.000	GRC	2	0	2
524	Combinatorica	0.470	HUN	1	1	2
525	Comm. Statist. B Simulation Comput.	0.000	USA	2	0	2
526	Comm. Statist. Stochastic Models	0.000	USA	2	0	2
527	Comput. J.	0.434	UKD	1	1	2
528	Comput. Statist. Data Anal.	0.250	NLD	0	2	2
529	Des. Codes Cryptogr.	0.000	NLD	0	2	2
530	Differential Equations Dynam. Systems	0.000	USA	0	2	2



Table 4 contd.

531	Econom. Comput. Econom. Cybernet. Stud. Res.	0.000	ROM	2	0	2
532	Econom. Theory	0.000	USA	0	2	2
533	Econometrica	2.271	USA	2	0	2
534	Europhys. Lett.	2.463	CHE	2	0	2
535	Forum Math.	0.359	DEU	0	2	2
536	Fukuoka Univ. Sci. Rep.	0.000	JPN	2	0	2
537	Fuzzy Math.	0.000	PRC	2	0	2
538	IEEE Trans. Antennas and Propagation	0.724	USA	2	0	2
539	IMA J. Appl. Math.	0.386	UKD	2	0	2
540	Illinois J. Math.	0.374	USA	2	0	2
541	Indian J. Management Systems	0.000	IND	2	0	2
542	Internat. J. Circuit Theory Appl.	0.377	UKD	2	0	2
543	Internat. J. Gen. Systems	0.761	UKD	2	0	2
544	Internat. J. Math.	0.000	SGP	0	2	2
545	Internat. J. Uncertain. Fuzziness Knowledge Based Systems	0.000	SGP	0	2	2
546	Internat. Math. Res. Notices	0.000	USA	0	2	2
547	J. Combin. Math. Combin. Comput.	0.000	CAN	2	0	2
548	J. Differential Equations	0.559	USA	0	2	2
549	J. Econometrics	1.047	NLD	1	1	2
550	ACM Trans. Math. Software	0.857	USA	1	0	1
551	AIAA J.	0.553	USA	1	0	1
552	Acta Math.	0.000	SWE	1	0	1
553	Acta Math. Univ. Comenian. (N.S.)	0.000	CSK	0	1	1
554	Acta Tech. CSAV	0.000	CSK	1	0	1
555	Adv. Comput. Math.	0.000	CHE	0	1	1
556	Adv. Math. Sci. Appl.	0.000	USA	0	1	1
557	Algebra i Analiz	0.000	ZAF	0	1	1
558	Algebras Groups Geom.	0.000	USA	0	1	1
559	Amer. Statist.	0.858	USA	1	0	1
560	Ann. Inst. H. Poincare Anal. Non Lineaire	0.709	FRA	1	0	1
561	Ann. Math. Artificial Intelligence	0.000	CHE	0	1	1
562	Ann. Physik (8)	0.000	DEU	0	1	1
563	Ann. Sci. Ecole Norm. Sup. (4)	0.000	FRA	0	1	1
564	Ann. Sci. Math. Quebec	0.000	CAN	0	1	1
565	Ann. Soc. Sci. Bruxelles Ser. I	0.000	BEL	1	0	1
566	Annual Rep. Asahikawa Med. College	0.000	JPN	1	0	1
567	Anz. Osterreich. Akad. Wiss. Math. Natur. Kl.	0.000	AUT	0	1	1
568	Apl. Mat.	0.000	CSK	1	0	1
569	Appl. Algebra Engrg. Comm. Comput.	0.000	DEU	0	1	1
570	Appl. Math. Notes	0.000	CAN	1	0	1
571	Applicable Anal.	0.000	CHE	1	0	1
572	Arabian J. Sci. Engrg.	0.048	SAU	1	0	1
573	Arch. Hist. Exact Sci.	0.147	DEU	1	0	1
574	Arch. Mech. (Arch. Mech. Stos.)	0.000	POL	1	0	1
575	Astronom. and Astrophys.	1.821	DEU	1	0	1

Table 4 contd.

576	Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei (9) Mat. Appl.	0.000	ITA	0	1	1
577	Biometrics	1.027	USA	1	0	1
578	Bol. Soc. Brasil. Mat. (N.S.)	0.000	BRA	1	0	1
579	Bol. Soc. Mat. Mexicana (2)	0.000	MEX	0	1	1
580	Boll. Un. Mat. Ital. A (6)	0.000	ITA	1	0	1
581	Bulgar. J. Phys.	0.000	BGR	1	0	1
582	Bull. Korean Math. Soc.	0.000	KOR	1	0	1
583	Bull. Polish Acad. Sci. Math.	0.000	POL	1	0	1
584	Bull. Polish Acad. Sci. Tech. Sci.	0.000	POL	1	0	1
585	Bull. Soc. Math. Belg. Ser. A	0.000	BEL	0	1	1
586	Bull. Soc. Math. France	0.349	FRA	1	0	1
587	Bull. Soc. Roy. Sci. Liege	0.000	BEL	1	0	1
588	Bull. Yamagata Univ. Natur. Sci.	0.000	JPN	0	1	1
589	CSQ Comput. Statist. Quart.	0.000		1	0	1
590	Caribbean J. Math. Comput. Sci.	0.000	BRB	0	1	1
591	Celestial Mech.	0.000	NLD	1	0	1
592	Centaurus	0.000	DNK	1	0	1
593	Chinese Quart. J. Math.	0.000	PRC	0	1	1
594	Chittagong Univ. Stud. Part II Sci.	0.000	BGD	1	0	1
595	Cienc. Mat. (Havana)	0.000	CUB	0	1	1
596	Comm. Anal. Geom.	0.000	HKG	0	1	1
597	Comment. Math. Univ. Carolin.	0.000	CSK	0	1	1
598	Comment. Math. Univ. St. Paul.	0.000	JPN	0	1	1
599	Comput. Geom.	0.000	NLD	0	1	1
600	Comput. Math. Appl. Ser. A	0.000	UKD	1	0	1
601	Comput. Oper. Res.	0.297	UKD	1	0	1
602	Comput. and Fluids	0.382	UKD	0	1	1
603	Confer. Sem. Mat. Univ. Bari	0.000	ITA	1	0	1
604	Constr. Approx.	0.673	USA	1	0	1
605	Cybernet. Systems	0.205	UKD	1	0	1
606	Czechoslovak J. Phys. B	0.309	CSK	1	0	1
607	Defence Sci. J.	0.000	IND	1	0	1
608	Delta J. Sci.	0.000	EGY	0	1	1
609	Distrib. Comput.	0.250	DEU	0	1	1
610	Doga Mat.	0.000	TUR	0	1	1
611	Dongbei Shida Xuebao	0.000	PRC	0	1	1
612	EDF Bull. Direction Etudes Rech. Ser. C Math. Inform.	0.000	FRA	1	0	1
613	Econometric Rev.	0.000	USA	0	1	1
614	Econometric Theory	0.000	USA	1	0	1
615	Eesti Tead. Akad. Toimetised Fuus. Mat.	0.000	EST	0	1	1
616	Facta Univ. Ser. Math. Inform.	0.000	YUG	1	0	1
617	Found. Comput. Decision Sci.	0.000	POL	0	1	1
618	Fund. Inform.	0.000	NLD	1	0	1
619	Funkcial. Ekvac.	0.000	JPN	1	0	1
620	Historia Sci.	0.000	JPN	1	0	1

Table 4 contd.

621	Honam Math. J.	0.000	KOR	1	0	1
622	Hunan Daxue Xuebao	0.000	PRC	1	0	1
623	IEEE Trans. Software Engrg.	0.734	USA	1	0	1
624	Indian Sci. Cruiser	0.000	IND	0	1	1
625	Indiana Univ. Math. J.	0.383	USA	0	1	1
626	Internat. Econom. Rev.	0.000	USA	1	0	1
627	Internat. J. Comput. Geom. Appl.	0.000	SGP	0	1	1
628	Internat. J. Comput. Inform. Sci.	0.000	USA	1	0	1
629	Internat. J. Numer. Methods Engrg.	1.006	UKD	0	1	1
630	Internat. J. Parallel Programming	0.200	USA	1	0	1
631	Internat. Statist. Rev.	0.595	FRA	1	0	1
632	Izv. Akad. Nauk UzSSR Ser. Fiz. Mat. Nauk	0.000	SUN	1	0	1
633	J. Amer. Math. Soc.	0.000	USA	0	1	1
634	J. Appl. Math. Simulation	0.000	USA	1	0	1
635	J. Asahikawa Nat. College Tech.	0.000	JPN	1	0	1
636	J. Assoc. Comput. Mach.	0.736	USA	1	0	1
637	J. Astronaut. Sci.	0.433	USA	1	0	1
638	J. Comput. Chem.	3.592	USA	1	0	1
639	J. Engrg. Math.	0.422	NLD	0	1	1
640	J. Fac. Sci. Univ. Tokyo Sect. IA Math.	0.000	JPN	0	1	1
641	J. Franklin Inst.	0.212	UKD	1	0	1
642	J. Karadeniz Tech. Univ. Fac. Arts Sci. Ser. Math. Phys.	0.000	TUR	1	0	1
643	J. Logic Programming	0.444	USA	0	1	1
644	J. Math. Kyoto Univ.	0.127	JPN	0	1	1
645	J. Math. Pures Appl. (9)	0.548	FRA	1	0	1
646	J. Math. Sci. Univ. Tokyo	0.000	JPN	0	1	1
647	J. Nigerian Math. Soc.	0.000	NGA	1	0	1
648	J. Nonlinear Math. Phys.	0.000	SUN	0	1	1
649	J. Opt. Soc. Amer. A	1.467	USA	0	1	1
650	J. Tech. Phys.	0.000	POL	1	0	1
651	J. Xinjiang Univ. Natur. Sci.	0.000	PRC	0	1	1
652	Japan J. Indust. Appl. Math.	0.000	JPN	1	0	1
653	Management Sci.	1.224	USA	1	0	1
654	Marathwada Univ. J. Sci. Natur. Sci.	0.000	IND	1	0	1
655	Math. Control Signals Systems	1.140	USA	1	0	1
656	Math. Methods Statist.	0.000	USA	0	1	1
657	Math. Models Methods Appl. Sci.	0.321	SGP	0	1	1
658	Math. Pannon.	0.000	HUN	1	0	1
659	Math. Slovaca	0.000	CSK	0	1	1
660	Mech. Structures Mach.	0.269	USA	1	0	1
661	Mem. Fac. Sci. Shimane Univ.	0.000	JPN	1	0	1
662	Mem. Sect. Stiint. Acad. Repub. Soc. Romania Ser. IV	0.000	ROM	1	0	1
663	Mem. Soc. Math. France (N.S.)	0.000	FRA	1	0	1
664	Mohu Xitong yu Shuxue	0.000	PRC	0	1	1
665	Natur. Resource Modeling	0.000	USA	1	0	1

Table 4 contd.

666	New Zealand Math. Mag.	0.000	NZL	1	0	1
667	Nonlinear Times Digest	0.000	USA	0	1	1
668	Nonlinearity	2.213	ITA	1	0	1
669	Nova J. Algebra Geom.	0.000	USA	0	1	1
670	Nuclear Phys. A	1.936	NLD	1	0	1
671	Numer. Algorithms	0.000	CHE	1	0	1
672	Parallel Process. Lett.	0.000	SGP	0	1	1
673	Philos. Trans. Roy. Soc. London Ser. A	1.182	UKD	1	0	1
674	Phys. Essays	0.000	CAN	0	1	1
675	Plasma Phys. Control. Fusion	2.871	UKD	1	0	1
676	Polytech. Inst. Bucharest Sci. Bull. Chem. Materials Sci.	0.000	ROM	0	1	1
677	Polytech. Inst. Bucharest Sci. Bull. Mech. Engrg.	0.000	ROM	0	1	1
678	Probab. Engrg. Inform. Sci.	0.000	USA	0	1	1
679	Problems Control Inform. Theory/Problemy Upravlen. Teor. Inform.	0.044	HUN	1	0	1
680	Proc. Nat. Acad. Sci. U.S.A.	10.480	USA	1	0	1
681	Proc. Pakistan Acad. Sci.	0.000	PAK	0	1	1
682	Proc. Roy. Irish Acad. Sect. A	0.000	IRL	1	0	1
683	Psychometrika	0.787	USA	1	0	1
684	Punjab Univ. J. Math. (Lahore)	0.000	PAK	1	0	1
685	Pure Appl. Math.	0.000	USA	0	1	1
686	Pure Math. Appl. Ser. B	0.000	HUN	1	0	1
687	Qatar Univ. Sci. J.	0.000	QAT	0	1	1
688	Quart. J. Math. Oxford Ser. (2)	0.380	UKD	0	1	1
689	Questions Answers Gen. Topology	0.000	JPN	0	1	1
690	Qufu Shifan Daxue Xuebao Ziran Kexue Ban	0.000	PRC	0	1	1
691	Random Oper. Stochastic Equations	0.000	NLD	0	1	1
692	Rep. Math. Phys.	0.000	UKD	0	1	1
693	Results Math.	0.000	CHE	0	1	1
694	Rev. Integr. Temas Mat.	0.000	COL	0	1	1
695	Rev. Mat. Univ. Complut. Madrid	0.000	ESP	0	1	1
696	Rev. Mexicana Fis.	0.000	MEX	0	1	1
697	Rev. Roumaine Phys.	0.000	ROM	1	0	1
698	Rev. Roumaine Sci. Tech. Ser. Mec. Appl.	0.000	ROM	0	1	1
699	Rev. Un. Mat. Argentina	0.000	ARG	1	0	1
700	Ricerche Mat.	0.000	ITA	1	0	1
701	Rostock. Math. Kolloq.	0.000	DEU	0	1	1
702	Rozprawy Inz.	0.000	CSK	1	0	1
703	SIAM Rev.	1.182	USA	1	0	1
704	Saitama Math. J.	0.000	JPN	1	0	1
705	Shanghai Keji Daxue Xuebao	0.000	PRC	1	0	1
706	Sichuan Daxue Xuebao	0.000	PRC	1	0	1
707	Stability Appl. Anal. Contin. Media	0.000	ITA	0	1	1
708	Statist. Sinica	0.424	CAN	0	1	1
709	Studia Math.	0.190	POL	0	1	1
710	Symmetry Cult. Sci.	0.000	HUN	0	1	1

Table 4 contd.

711	Tatra Mt. Math. Publ.	0.000	CSK	0	1	1
712	Technometrics	1.459	USA	0	1	1
713	Theoret. Population Biol.	1.188	USA	1	0	1
714	Tokyo J. Math.	0.000	JPN	0	1	1
715	Translation: Theory Probab. Appl.	0.015	USA	0	1	1
716	Transportation Sci.	0.000	USA	1	0	1
717	Tsukuba J. Math.	0.000	JPN	0	1	1
718	Ulsan Inst. Tech. Rep.	0.000	KOR	1	0	1
719	Vistas Astronom.	0.000	USA	0	1	1
720	Wave Motion	0.830	NLD	0	1	1
721	Z. Phys. B	2.243	DEU	1	0	1
Total				6760	3651	10411
Non journal items				611	336	947
				7371	3987	11358

a Impact factor values are taken from *Journal Citation Reports, 1992*. Some journals with 0.000 impact factor are included in *Journal Citation Reports, 1992*, and the others are non-SCI journals.

Table 5: Indian research papers covered by *MATHSCI* 1988 - mid 95  
classified by subfields (arranged by number of papers)

SI #	Subfield with code	# of papers (rank)		
		88-92	93-95	Total
1	62 Statistics	858 ( 1)	471 ( 1)	1329
2	81 Quantum theory	399 ( 2)	254 ( 2)	653
3	33 Special functions	394 ( 3)	170 ( 4)	564
4	54 General topology	367 ( 4)	179 ( 3)	546
5	83 Relativity and gravitational theory	345 ( 6)	129(11)	474
6	90 Economics, operations research, programming, games	357 ( 5)	117 (13)	474
7	30 Functions of a complex variable	277 ( 7)	150 ( 7)	427
8	11 Number theory	259 ( 8)	161 ( 5)	420
9	05 Combinatorics	247 ( 9)	146 ( 8)	393
10	53 Differential geometry	244 (10)	111 (14)	355
11	47 Operator theory	221 (11)	106 (15)	327
12	60 Probability theory and stochastic processes	189 (12)	131 (10)	320
13	46 Functional analysis	177 (13)	132 ( 9)	309
14	34 Ordinary differential equations	138 (18)	121 (12)	259
15	68 Computer science	151 (16)	104 (16)	255
16	76 Fluid mechanics	169 (15)	75 (19)	244
17	35 Partial differential equations	174 (14)	66 (21)	240
18	16 Associative rings and algebras	145 (17)	90 (17)	235
19	04 Set theory	57 (37)	160 ( 6)	217
20	26 Real functions	136 (19)	66 (22)	202
21	65 Numerical analysis	136 (20)	57 (23)	193
22	20 Group theory and generalizations	107 (22)	80 (18)	187
23	41 Approximations and expansions	125 (21)	56 (24)	181
24	17 Nonassociative rings and algebras	83 (28)	72 (20)	155
25	58 Global analysis, analysis on manifolds	102 (24)	44 (29)	146
26	42 Fourier analysis	104 (23)	35 (31)	139
27	14 Algebraic geometry	81 (30)	53 (26)	134
28	93 Systems theory	79 (32)	54 (25)	133
29	40 Sequences, series, summability	80 (31)	50 (27)	130
30	01 History and biography	100 (25)	24 (39)	124
31	03 Mathematical logic and foundations	89 (26)	32 (34)	121
32	15 Linear and multilinear algebra	68 (34)	48 (28)	116
33	94 Information and communication, circuits	88 (27)	27 (50)	115
34	44 Integral transforms, operational calculus	77 (33)	34 (32)	111
35	92 Biology and other natural sciences, behavioral sciences	83 (29)	16 (45)	99

Table 5 contd.

SI #	Subfield with code	# of papers (rank)		
		88-92	93-95	Total
36	82 Statistical mechanics, structure of matter	66 (36)	29 (37)	95
37	49 Calculus of variations and optimal control	45 (32)	43 (18)	88
38	45 Integral equations	67 (35)	20 (41)	87
39	22 Topological groups, Lie groups	52 (38)	33 (33)	85
40	73 Mechanics of solids	52 (39)	20 (42)	72
41	13 Commutative rings and algebras	34 (42)	30 (35)	64
42	32 Several complex variables and analytic spaces	32 (45)	30 (36)	62
43	28 Measure and integration	38 (41)	22 (40)	60
44	06 Order, lattices, ordered algebraic structures	34 (43)	18 (43)	52
45	70 Mechanics of particles and systems	34 (44)	14 (47)	48
46	39 Finite differences and functional equations	20 (47)	17 (44)	37
47	12 Field theory and polynomials	17 (50)	15 (46)	32
48	43 Abstract harmonic analysis	19 (49)	12 (48)	31
49	51 Geometry	25 (46)	6 (52)	31
50	78 Optics, electromagnetic theory	20 (48)	10 (51)	30
51	57 Manifolds and cell complexes	16 (51)	11 (50)	27
52	80 Classical thermodynamics, heat transfer	14 (53)	5 (53)	19
53	52 Convex and discrete geometry	6 (58)	12 (49)	18
54	55 Algebraic topology	13 (54)	5 (54)	18
55	85 Astronomy and astrophysics	15 (52)	2 (56)	17
56	00 General	13 (55)	2 (57)	15
57	08 General algebraic systems	12 (56)	1 (59)	13
58	19 K theory	8 (57)	1 (60)	9
59	18 Category theory, homological algebra	6 (59)	2 (58)	8
60	31 Potential theory	3 (61)	5 (55)	8
61	86 Geophysics	4 (60)	1 (61)	5
Total		7371	3987	11358



Table 6: India's contribution to the journal literature of mathematics arranged by country of publication of the journal as seen from *MATHSCI* 1988 - mid 95 (arranged by number of papers)

SI #	Publication country	1988 - 92		1993 - 95		Total	Total %
		# of jrls	# of papers	# of jrls	# of papers	# of papers	
1	INDIA	63	2796	54	1201	3997	35.19
2	U S AMERICA	141	1219	122	766	1985	17.48
3	THE NETHERLANDS	51	683	47	434	1117	9.83
4	UNITED KINGDOM	56	462	40	211	673	5.93
5	TAIWAN	5	169	4	91	260	2.29
6	GERMANY	26	159	26	94	253	2.23
7	SINGAPORE	8	104	13	121	225	1.95
8	ITALY	23	123	18	87	210	1.85
9	JAPAN	34	107	30	77	184	1.62
10	SWITZERLAND	19	77	18	76	153	1.35
11	POLAND	16	97	12	52	149	1.31
12	CANADA	12	86	12	41	127	1.12
13	AUSTRALIA	5	71	4	42	113	0.99
14	HUNGARY	12	74	8	39	113	0.99
15	ROMANIA	10	54	10	51	105	0.92
16	YUGOSLOVIA	7	54	5	23	77	0.68
17	CHINA	10	37	13	30	67	0.59
18	TURKEY	6	52	4	9	61	0.54
19	FRANCE	14	29	8	16	45	0.40
20	BELGIUM	5	26	4	18	44	0.39
21	CZECH REPUBLIC	9	26	8	18	44	0.39
22	BANGLADESH	3	42	2	13	55	0.48
23	KOREA	6	24	2	15	39	0.34
24	ARGENTINA	3	17	1	17	34	0.30
25	BULGARIA	4	13	2	21	34	0.30
26	NEPAL	1	18	1	9	27	0.24
27	SPAIN	4	9	7	15	24	0.21
28	DENMARK	4	15	2	3	18	0.16
29	AUSTRIA	2	11	3	5	16	0.14
30	NEW ZEALAND	2	10	2	5	15	0.13
31	SWEDEN	2	8	1	6	14	0.12
32	SOUTH AFRICA	2	8	3	4	12	0.11
33	FINLAND	2	6	2	5	11	0.10
34	PORTUGAL	1	9	1	2	11	0.10
35	PAKISTAN	2	7	2	2	9	0.08

Table 6 contd.

SI #	Publication country	1988 - 92		1993 - 95		Total	Total %
		# of jrls	# of papers	# of jrls	# of papers	# of papers	
36	MALAYSIA	1	6	1	2	8	0.07
37	BRAZIL	2	2	2	5	7	0.06
38	CUBA	1	4	2	2	6	0.05
39	HONG KONG	1	1	2	5	6	0.05
40	KUWAIT	1	6	0	0	6	0.05
41	PANAMA	1	6	0	0	6	0.05
42	VENEZUELA	1	5	1	1	6	0.05
43	VIET NAM	1	4	1	2	6	0.05
44	BARBADOS	1	3	1	1	4	0.04
45	ISRAEL	1	1	1	3	4	0.04
46	COLOMBIA	1	1	2	2	3	0.03
47	EGYPT	1	1	1	2	3	0.03
48	NORWAY	1	2	1	1	3	0.03
49	RUSSIA	1	1	2	2	3	0.03
50	GREECE	1	2	0	0	2	0.02
51	IRAN	1	2	0	0	2	0.02
52	MEXICO	0	0	2	2	2	0.02
53	ESTONIA	0	0	1	1	1	0.01
54	IRELAND	1	1	0	0	1	0.01
55	NIGERIA	1	1	0	0	1	0.01
56	QATAR	0	0	1	1	1	0.01
57	SAUDI ARABIA	1	1	0	0	1	0.01
	Unknown	3	8	0	0	8	0.07
Total		593	6760	512	3651	10411	91.66
Non journal		611		336		947	8.34
		7371		3987		11358	100.00

Table 7: Indian journals covered by *MATHSCI* 1988 - mid 95  
(arranged by number of papers)

Sl #	Journal title	# of papers		
		88-92	93-95	Total
1	Indian J Pure Appl Math	323	134	457
2	Math Student	202	56	258
3	Bull Calcutta Math Soc	161	91	252
4	J Indian Math Soc (N S)	106	80	186
5	J Math Phys Sci	123	42	165
6	Proc Nat Acad Sci India Sect A	93	40	133
7	Math Ed (Siwan)	90	42	132
8	Proc Indian Acad Sci Math Sci	75	57	132
9	Calcutta Statist Assoc Bull	69	52	121
10	Ganita	89	27	116
11	Sankhya Ser A	49	64	113
12	Indian J Math	76	29	105
13	Pure Appl Math Sci	79	19	98
14	J Indian Acad Math	63	32	95
15	Sankhya Ser B	64	28	92
16	Vijnana Parishad Anusandhan Patrika	78	14	92
17	J Indian Statist Assoc	57	32	89
18	J Indian Soc Agricultural Statist	61	18	79
19	Pure Math Manuscript	44	30	74
20	Math Today	32	23	55
21	Jnanabha	39	14	53
22	Progr Math (Varanasi)	42	10	52
23	IAPQR Trans	45	5	50
24	J Bihar Math Soc	45	5	50
25	Opsearch	41	9	50
26	Ganita Sandesh	36	12	48
27	Proc Math Soc	15	33	48
28	J Pure Math	23	22	45
29	J Ramanujan Math Soc	28	15	43
30	J Nat Acad Math India	42	0	42
31	J Orissa Math Soc	42	0	42
32	Math Ed	35	6	41
33	Nat Acad Sci Lett	32	9	41
34	Vikram Math J	19	19	38
35	Acta Cienc Indica Math	35	0	35

Table 7 contd.

Sl #	Journal title	# of papers		
		88-92	93-95	Total
36	J Maulana Azad College Tech	23	9	32
37	J Indian Inst Sci	30	1	31
38	Gujarat Statist Rev	30	0	30
39	Ranchi Univ Math J	30	0	30
40	Ganita Bharati	19	10	29
41	J Combin Inform System Sci	23	4	27
42	J Inform Optim Sci	16	11	27
43	Sci Phys Sci	25	2	27
44	Aligarh J Statist	15	9	24
45	Internat J Management Systems	21	0	21
46	Hardy Ramanujan J	13	4	17
47	Indian J Hist Sci	14	3	17
48	Ultra Sci Phys Sci	0	16	16
49	J Sci Res	15	0	15
50	Far East J Math Sci	0	14	14
51	J Natur Phys Sci	5	8	13
52	J Karnatak Univ Sci	12	0	12
53	Bull Allahabad Math Soc	10	0	10
54	J Indian Soc Statist Oper Res	8	2	10
55	Current Sci	0	9	9
56	Proc Indian Nat Sci Acad Part A	9	0	9
57	J Anal	0	7	7
58	Sadhana	2	5	7
59	Aligarh Bull Math	6	0	6
60	Indian J Pure Appl Phys	3	3	6
61	J Inst Math Comput Sci Math Ser	1	4	5
62	Proc Einstein Found Internat	5	0	5
63	Bull Math Assoc India	1	3	4
64	J Assam Sci Soc	0	4	4
65	Bull Vijnana Parishad India	0	3	3
66	J Uttar Pradesh Gov Colleges Acad Soc	3	0	3
67	Indian J Management Systems	2	0	2
68	Defence Sci J	1	0	1
69	Indian Sci Cruiser	0	1	1
70	Marathwada Univ J Sci Natur Sci	1	0	1
Total		2796	1201	3997

Table 8: Indian institutions publishing papers  
as seen from *MATHSCI* 1988 - mid 95  
(arranged by number of papers)

Sl #	Institution name	# of papers		
		88-92	93-95	Total
1	Tata Institute of Fundamental Research, Bombay	485	295	780
2	Indian Statistical Institute, Calcutta	356	206	562
3	University of Calcutta, Calcutta	278	185	463
4	Indian Institute of Science, Bangalore	185	130	315
5	Banaras Hindu University, Varanasi	220	86	306
6	University of Delhi, Delhi	182	103	285
7	Indian Institute of Technology, Kanpur	204	71	275
8	Indian Statistical Institute, Delhi	150	118	268
9	Indian Institute of Technology, Delhi	180	81	261
10	Jadavpur University, Calcutta	160	79	239
11	Indian Institute of Technology, Kharagpur	139	97	236
12	Indian Institute of Technology, Madras	134	96	230
13	Institute of Mathematical Science, Madras	126	97	223
14	University of Madras, Madras	115	95	210
15	Aligarh Muslim University, Aligarh	146	61	207
16	Indian Institute of Technology, Bombay	133	68	201
17	Panjab University, Chandigarh	106	74	180
18	Lucknow University, Lucknow	110	64	174
19	University of Kalyani, Kalyani	96	60	156
20	Marathwada University, Aurangabad	109	42	151
21	University of Poona, Pune	87	63	150
22	Andhra University, Visakhapatnam	115	34	149
23	University of Gorakhpur, Gorakhpur	112	21	133
24	University of Rajasthan, Jaipur	102	24	126
25	University of Roorkee, Roorkee	77	42	119
26	Institute of Technology, Varanasi	110	0	110
27	Karnatak University, Dharwad	68	33	101
28	University of Mysore, Mysore	49	44	93
29	Institute of Physics, Bhubaneswar	47	46	93
30	University of Bombay, Bombay	64	28	92
31	Hari Singh Gour University, Sagar	61	31	92
32	Saha Institute of Nuclear Physics, Calcutta	47	38	85
33	Vikram University, Ujjain	48	34	82
34	University of Hyderabad, Hyderabad	46	35	81
35	University of Jodhpur, Jodhpur	45	35	80
36	Sardar Patel University, Vallabh Vidyanagar	41	39	80
37	Burdwan University, Burdwan	49	30	79
38	Cochin University of Science and Technology, Cochin	31	47	78
39	University of Jammu, Jammu Tawi	35	43	78

Table 8 contd.

40	Indian Statistical Institute, Bangalore	24	52	76
41	University of Allahabad, Allahabad	50	23	73
42	Gujarat University, Ahmedabad	64	9	73
43	Utkal University, Bhubaneswar	41	32	73
44	Shivaji University, Kolhapur	49	23	72
45	Maharshi Dayanand University, Rohtak	50	20	70
46	Bharathiar University, Coimbatore	35	32	67
47	Jawaharlal Nehru University, Delhi	46	16	62
48	Osmania University, Hyderabad	41	21	62
49	Bharathidasan University, Tiruchirapalli	40	21	61
50	Tata Institute of Fundamental Research, Bangalore	55	2	57
51	Government Post Graduate College, Narsinghpur	43	11	54
52	Rani Durgavati University, Jabalpur	30	23	53
53	Meerut University, Meerut	46	5	51
54	Indian Agricultural Statistics Research Institute (IASRI), Delhi	44	7	51
55	University of Kerala, Trivandrum	28	22	50
56	Visva-Bharati University, Santiniketan	22	28	50
57	Bangalore University, Bangalore	31	18	49
58	Malaviya Regional Engineering College, Jaipur	34	14	48
59	Bangabasi Evening College, Calcutta	35	13	48
60	Indian Institute of Management, Calcutta	23	25	48
61	Kalyan Mahavidyalaya, Bhilainagar	32	16	48
62	Madurai Kamaraj University, Madurai	31	17	48
63	Punjabi University, Patiala	35	12	47
64	Guru Nanak Dev University, Amritsar	32	14	46
65	Bhabha Atomic Research Centre, Bombay	32	14	46
66	Annamalai University, Annamalainagar	26	17	43
67	Berhampur University, Berhampur	19	23	42
68	Manipur University, Imphal	37	5	42
69	University of North Bengal, Darjeeling	30	12	42
70	Gurukul Kangri Vishwavidyalaya (University), Hardwar	24	15	39
71	Sri Venkateswara University, Tirupati	33	6	39
72	Loyola College, Madras	27	11	38
73	Cotton College, Gauhati	27	10	37
74	University of Garhwal, Srinagar (UP)	31	5	36
75	Himachal Pradesh University, Shimla	24	10	34
76	Jamia Millia Islamia, Delhi	9	25	34
77	Birla Institute of Technology Mesra, Ranchi	25	8	33
78	Gauhati University, Gauhati	18	13	31
79	Maharaja Sayajirao University of Baroda, Vadodara	20	11	31
80	Ranchi University, Ranchi	27	4	31
81	Sambalpur University, Sambalpur	27	4	31
82	Madras Christian College, Madras	19	11	30
83	Maitreyi College, Delhi	22	7	29
84	Ramakrishna Mission Vivekananda College, Madras	17	12	29
85	Haryana Agricultural University, Hissar	25	4	29

Table 8 contd.

86	Punjab Agricultural University, Ludhiana	15	14	29
87	University of Cochin, Cochin	29	0	29
88	Nagarjuna University, Nagarjunanagar	21	8	29
89	University of Nagpur, Nagpur	13	16	29
90	North-Eastern Hill University (NEHU), Shillong	17	12	29
91	Physical Research Laboratory, Ahmedabad	19	10	29
92	D.V. Post Graduate College, Orai	13	15	28
93	Birsa Agricultural University, Ranchi	22	6	28
94	Kurukshetra University, Kurukshetra	20	8	28
95	Presidency College, Calcutta	23	3	26
96	Patna University, Patna	20	5	25
97	Government Engineering College, Jabalpur	15	9	24
98	Mahatma Gandhi College, Ahmedpur	19	5	24
99	Raman Research Institute, Bangalore	16	8	24
100	Jawaharlal Nehru Agricultural University, Jabalpur	20	3	23
101	Goa University, Goa	11	12	23
102	Magadh University, Bodh-Gaya	15	8	23
103	Regional Engineering College, Rourkela	13	9	22
104	Tata College, Chaibasa	17	5	22
105	Tilak Dhari Post Graduate College, Jaunpur	20	2	22
106	Shri G. S. Institute of Technology and Science, Indore	17	4	21
107	P.G.D.A.V. College, Delhi	9	12	21
108	Zakir Husain College, Delhi	4	17	21
109	Anna University, Madras	6	15	21
110	Bhagalpur University, Bhagalpur	19	2	21
111	Ravishankar University, Raipur	11	10	21
112	Saurashtra University, Rajkot	11	10	21
113	Agra University, Agra	17	3	20
114	Post Graduate Extension Center (AUPG), Nuzvid	13	7	20
115	University of Indore, Indore	15	4	19
116	Shri Guru Teg Bahadur Khalsa College, Delhi	7	11	18
117	St. Andrew's College, Gorakhpur	16	2	18
118	Birla Institute of Technology and Science, Pilani	11	7	18
119	Mehta Research Institute, Allahabad	9	9	18
120	Ravenshaw College, Cuttack	10	7	17
121	Kumaun University, Naini Tal	7	10	17
122	College of Technology and Agricultural Engineering, Udaipur	12	4	16
123	Madras University Post Graduate Center, Salem	16	0	16
124	Bhavan's Mehta College, Bharwari	9	6	15
125	Khallikote College, Berhampur	13	2	15
126	Orissa University of Agriculture and Technology, Bhubaneswar	14	1	15
127	National Aeronautical Laboratory, Bangalore	6	9	15
128	M.M.M. Engineering College, Gorakhpur	14	0	14
129	University of Bihar, Muzaffarpur	13	1	14
130	South Gujarat University, Surat	7	7	14



Table 8 contd.

131	Asutosh College, Calcutta	7	6	13
132	Indian Association for the Cultivation of Science, Calcutta	10	3	13
133	Harcourt Butler Technological Institute, Kanpur	11	1	12
134	University of Kashmir, Srinagar	11	1	12
135	Mangalore University, Mangalore	4	8	12
136	Regional Engineering College, Srinagar	7	4	11
137	Indian Institute of Management, Ahmedabad	11	0	11
138	Janta College, Bakewar, Etawah	9	2	11
139	Milind College of Science, Aurangabad	8	3	11
140	Awadhesh Pratap Singh University, Rewa	5	6	11
141	Visvesvaraya Regional College of Engineering, Nagpur	8	2	10
142	D.A.R. College, Nuzvid	9	1	10
143	Marwari College, Ranchi	0	10	10
144	Science College, Nanded	10	0	10
145	University of Calicut, Calicut	5	5	10
146	SPIC Science Foundation, Madras	0	10	10
147	Reactor Research Center, Kalpakkam	6	4	10
148	L.M.S. Govt. Postgraduate College, Rishikesh	8	1	9
149	National College, Tiruchirapalli	7	2	9
150	Kumaun University, Almora Campus, Almora	9	0	9
151	Pachunga University (P.U.) College, Aizawl	4	5	9
152	Vikram Sarabhai Space Centre, Trivandrum	4	5	9
153	College of Agricultural Engineering, Jabalpur	8	0	8
154	Sukhadia University, Udaipur	0	8	8
155	National Council of Education Research and Training, Delhi	5	3	8
156	Indian Council of Agricultural Research (ICAR), Delhi	7	1	8
157	Bengal Engineering College, Howrah	4	3	7
158	Government Engineering College, Ujjain	3	4	7
159	Moti Lal Nehru Regional Engineering College, Allahabad	6	1	7
160	Thiagarajar College of Engineering, Madurai	5	2	7
161	Institute of Science, Aurangabad	4	3	7
162	Sahu Jain College, Najibabad	6	1	7
163	Kakatiya University, Warangal	5	2	7
164	Government College of Engineering, Salem	6	0	6
165	Bareilly College, Bareilly	4	2	6
166	College of Science, Udaipur	6	0	6
167	Gaya College, Gaya	3	3	6
168	Government Maharaja College, Chhatarpur	2	4	6
169	Government Post Graduate College, Chamoli	5	1	6
170	Hindu College, Delhi	1	5	6
171	Holkar Science College, Indore	2	4	6
172	Jai Hind College of Arts, Science and Commerce, Dhule	6	0	6
173	Presidency College, Madras	5	1	6
174	Indian Veterinary Research Institute, Izatnagar	5	1	6
175	Government Engineering College, Bilaspur	5	0	5

Table 8 contd.

176	Regional Engineering College, Durgapur	4	1	5
177	Zakir Husain College of Engineering and Technology, Aligarh	5	0	5
178	Aditanar College, Tiruchendur	5	0	5
179	Gurudas College of Commerce, Calcutta	5	0	5
180	Institute of Management Technology, Ghaziabad	4	1	5
181	Lajpat Rai College, Ghaziabad	4	1	5
182	Indian School of Mines, Dhanbad	5	0	5
183	Vidyasagar University, Midnapore	1	4	5
184	Department of Science and Technology, Delhi	2	3	5
185	Miranda House, Delhi	0	5	5
186	Institute of Armament Technology, Pune	2	3	5
187	Madras Institute of Technology, Madras	4	0	4
188	Agra College, Agra	4	0	4
189	Christ Church College, Kanpur	4	0	4
190	Government Arts College (Men), Madras	4	0	4
191	Hans Raj College, Delhi	2	2	4
192	Karnatak Arts College, Dharwad	3	1	4
193	M.L.K. College, Balrampur	4	0	4
194	Post Graduate College, Ghazipur	3	1	4
195	Regional College of Education, Mysore	0	4	4
196	Feroze Gandhi College, Rae Bareilly	1	3	4
197	V.S.S.D. College, Kanpur	4	0	4
198	Jiwaji University, Gwalior	4	0	4
199	University of Udaipur, Udaipur	2	2	4
200	Indian Statistical Institute, Madras	0	4	4
201	Jute Agricultural Research Institute, Barrackpore	1	3	4
202	Government College of Technology, Coimbatore	3	0	3
203	Punjab Engineering College, Chandigarh	2	1	3
204	D.A.V. College, Kanpur	3	0	3
205	D.A.V. Post Graduate College, Dehra Dun	2	1	3
206	Government PENCH Valley Mahavidyalaya, Parasia	3	0	3
207	Jogesh Chandra Chowdhury College, Calcutta	1	2	3
208	P.N. College, Parsa	3	0	3
209	Post Graduate College, Hyderabad	3	0	3
210	Ranchi College, Ranchi	0	3	3
211	Raj Narain College, Hajipur	3	0	3
212	St. Xavier's College, Calcutta	2	1	3
213	Bhavnagar University, Bhavnagar	1	2	3
214	S.K.N. Agriculture College, Jaber	2	0	2
215	Regional Institute of Technology, Jamshedpur	2	0	2
216	A. M. Jain College, Madras	2	0	2
217	Atma Ram Sanatan Dharam College, Delhi	1	1	2
218	Government College, Shahdol	2	0	2
219	Government Degree College, Garhwal	2	0	2
220	Harish Chandra Post Graduate College, Varanasi	1	1	2

Table 8 contd.

221	K.C.B. College, Bero, Ranchi	1	1	2
222	K.S. Saket Post Graduate College, Faizabad	2	0	2
223	Lal Bahadur Shastri College, Jaipur	2	0	2
224	Mahatma Gandhi Memorial College, Udupi	2	0	2
225	S.A.T.I. (Degree), Vidisha	0	2	2
226	Surendranath College, Calcutta	2	0	2
227	Dibrugarh University, Dibrugarh	1	1	2
228	Bombay Metropolitan Region Development Authority, Bombay	2	0	2
229	Agrawal College, Jaipur	1	0	1
230	Charu Chandra College, Calcutta	0	1	1
231	D.A.V. College, Siwan	0	1	1
232	Government Post Graduate College, Bilaspur	1	0	1
233	Indian Institute of Management, Bangalore	1	0	1
234	M.B.B. College, Agartala	1	0	1
235	M.G. Degree College, Gorakhpur	1	0	1
236	Moti Lal Nehru College, Delhi	1	0	1
237	Narasingha Dutt College, Howrah	0	1	1
238	Netajinagar Vidyamandir (College), Calcutta	0	1	1
239	R.B.S. College, Agra	1	0	1
240	R.K. Misson Residential College, Narendrapur	0	1	1
241	R.K.M.V.C. College, Parganas	1	0	1
242	St. John's College, Agra	1	0	1
243	St. Stephen's College, Delhi	1	0	1
244	St. Xavier's College, Palayankottai	0	1	1
245	University College of Science, Hyderabad	1	0	1
246	V.S. Mehta College of Science, Bharwari	1	0	1
247	Andhra Pradesh Open University, Hyderabad	1	0	1
248	National Defense Academy, Pune	1	0	1
249	Research and Development Organization, Ministry of Defense, Delhi	1	0	1
250	Indian National Science Academy, Delhi	1	0	1
251	Council of Scientific and Industrial Research, New Delhi	0	1	1
252	Institute of Advanced Study in Science and Technology, Gauhati	0	1	1
253	Directorate of Higher Education, Allahabad	0	1	1
Total		7371	3987	11358

# 26 Institute of Technology, Varanasi, is a part of # 5 Banaras Hindu University. But the database has given them two separate identification codes.

**Table 9: Contribution made by different organizations  
as seen from MATHSCI 1988 - mid 95**

	88-92	93-95	Total
Academic	5908	3028	8936
Research	872	530	1402
Ministry	589	412	1001
Private foundation	-	10	10
Others	-	5	5
State	2	2	4
	<b>7371</b>	<b>3987</b>	<b>11358</b>
<b>Academic</b>			
<b>Universities</b>			
General	4898	2658	7556
Agriculture	96	28	124
	<b>4994</b>	<b>2686</b>	
<b>Colleges</b>			
General	614	283	897
Engineering	278	55	333
Agriculture	22	4	26
	<b>914</b>	<b>342</b>	
<b>Research Institutions</b>			
Dept of Atomic Energy	807	505	1312
ICAR	57	12	69
CSIR	6	10	16
DRDO	2	3	5
	<b>872</b>	<b>530</b>	
<b>Central Ministries</b>			
Planning	530	380	910
Science & Technology	52	29	81
Human Resources Develop	5	3	8
Defence	2	-	2
	<b>589</b>	<b>412</b>	
<b>Private Foundations</b>	-	10	10
<b>State Govt Institutions</b>	2	2	4
<b>Others</b>	-	5	5
			<b>11358</b>

Table 10: Indian states contributing to the world literature of mathematics as seen from *MATHSCI* 1988 - mid 95 (arranged by number of papers)

Sl #	State	# of papers		
		88-92	93-95	Total
1	WEST BENGAL	1296	799	2095
2	UTTAR PRADESH	1348	457	1805
3	MAHARASHTRA	1032	567	1599
4	DELHI	675	418	1093
5	TAMIL NADU	639	448	1087
6	KARNATAKA	444	309	753
7	MADHYA PRADESH	327	169	496
8	ANDHRA PRADESH	288	114	402
9	RAJASTHAN	217	94	311
10	ORISSA	184	124	308
11	GUJARAT	174	88	262
12	BIHAR	172	57	229
13	CHANDIGARH	108	75	183
14	KERALA	97	79	176
15	HARYANA	95	32	127
16	PUNJAB	82	40	122
17	JAMMU & KASHMIR	53	48	101
18	ASSAM	46	25	71
19	MANIPUR	37	5	42
20	HIMACHAL PRADESH	24	10	34
21	MEGHALAYA	17	12	29
22	GOA	11	12	23
23	MIZORAM	4	5	9
24	TRIPURA	1	0	1
Total		7371	3987	11358

Table 11: Indian cities contributing in the field of mathematics  
as seen from *MATHSCI* 1988 - mid 95  
(arranged by number of papers)

SI #	City	# of papers		
		88-92	93-95	Total
1	CALCUTTA	949	563	1512
2	BOMBAY	716	405	1121
3	DELHI	675	418	1093
4	MADRAS	459	352	811
5	BANGALORE	318	219	537
6	VARANASI	331	87	418
7	KANPUR	226	72	298
8	KHARAGPUR	139	97	236
9	ALIGARH	151	61	212
10	CHANDIGARH	108	75	183
11	BHUBANESWAR	102	79	181
12	JAIPUR	139	38	177
13	AURANGABAD	127	48	175
14	LUKNOW	110	64	174
15	GORAKHPUR	143	23	166
16	KALYANI	96	60	156
17	PUNE	90	66	156
18	VISHAKAPATNAM	115	34	149
19	HYDERABAD	92	56	148
20	ROORKEE	77	42	119
21	AHMEDABAD	94	19	113
22	JABALPUR	73	35	108
23	COCHIN	60	47	107
24	RANCHI	75	32	107
25	DHARWAD	71	34	105
26	ALLAHABAD	65	34	99
27	MYSORE	49	48	97
28	SAGAR	61	31	92
29	UJJAIN	51	38	89
30	JODHPUR	45	35	80
31	VALLABH VIDYANAGAR	41	39	80
32	BURDWAN	49	30	79
33	JAMMU TAWI	35	43	78
34	KOLHAPUR	49	23	72
35	COIMBATORE	38	32	70

Table 11 contd.

SI #	City	# of papers		
		88-92	93-95	Total
36	ROHTAK	50	20	70
37	TIRUCHIRAPALLI	47	23	70
38	GUWAHATI	45	24	69
39	THIRUVANANDAPURAM	32	27	59
40	BERHAMPUR	32	25	57
41	MADURAI	36	19	55
42	NARSINGPUR	43	11	54
43	MEERUT	46	5	51
44	SANTINIKETAN	22	28	50
45	BHILAI	32	16	48
46	PATIALA	35	12	47
47	AMRITSAR	32	14	46
48	INDORE	34	12	46
49	ANNAMALAINAGAR	26	17	43
50	DARJEELING	30	12	42
51	IMPHAL	37	5	42
52	HARDWAR	24	15	39
53	NAGPUR	21	18	39
54	TIRUPATI	33	6	39
55	SRINAGAR (UP)	33	5	38
56	SHIMLA	24	10	34
57	UDAIPUR	20	14	34
58	SAMBALPUR	27	4	31
59	VADODARA	20	11	31
60	NUZVID	22	8	30
61	HISAR	25	4	29
62	LUDHIANA	15	14	29
63	NAGARJUNA NAGAR	21	8	29
64	SHILLONG	17	12	29
65	KURUKSHETRA	20	8	28
66	ORAI	13	15	28
67	AGRA	23	3	26
68	PATNA	20	5	25
69	AHMEDPUR	19	5	24
70	BAMBOLIM	11	12	23
71	BODH GAYA	15	8	23
72	SRINAGAR	18	5	23
73	CHAIBASA	17	5	22
74	JAUNPUR	20	2	22
75	ROURKELA	13	9	22



Table 11 contd.

Sl #	City	# of papers		
		88-92	93-95	Total
76	SALEM	22	0	22
77	BHAGALPUR	19	2	21
78	RAJKOT	11	10	21
79	RAIPUR	11	10	21
80	PILANI	11	7	18
81	CUTTACK	10	7	17
82	NAINITAL	7	10	17
83	BHARWARI	10	6	16
84	MUZAFFARPUR	13	1	14
85	SURAT	7	7	14
86	DEHRA DUN	10	2	12
87	MANGALORE	4	8	12
88	ETAWAH	9	2	11
89	REWA	5	6	11
90	CALICUT	5	5	10
91	GHAZIABAD	8	2	10
92	KALPAKKAM	6	4	10
93	NANDED	10	0	10
94	AIZAWL	4	5	9
95	ALMORA	9	0	9
96	HOWRAH	4	4	8
97	NAJIBABAD	6	1	7
98	WARANGAL	5	2	7
99	BAREILLY	4	2	6
100	BILASPUR	6	0	6
101	CHAMOLI	5	1	6
102	CHATARPUR	2	4	6
103	GAYA	3	3	6
104	IZATNAGAR	5	1	6
105	DHANBAD	5	0	5
106	DURGAPUR	4	1	5
107	MIDNAPORE	1	4	5
108	THIRUCHENDUR	5	0	5
109	BALRAMPUR	4	0	4
110	BARRACKPORE	1	3	4
111	GHAZIPUR	3	1	4
112	GWALIOR	4	0	4
113	RAE BARELI	1	3	4
114	BHAVNAGAR	1	2	3
115	HAJIPUR	3	0	3

Table 11 contd.

Sl #	City	# of papers		
		88-92	93-95	Total
116	PARSA	3	0	3
117	PARASIA	3	0	3
118	DIBRUGARH	1	1	2
119	FAIZABAD	2	0	2
120	JAMSEHDPUR	2	0	2
121	JOBNER	2	0	2
122	SHADOL	2	0	2
123	UDUPI	2	0	2
124	VIDISHA	0	2	2
125	AGARTALA	1	0	1
126	NARENDRAPUR	0	1	1
127	PARGANAS	1	0	1
128	PALAYANKOTTAI	0	1	1
129	SIWAN	0	1	1
Total		7371	3987	11358

Table 12: India's contribution to journal literature of mathematics categorised by leading institutions and leading journals (MATHSCI 1988 - mid 95)

Institutions → Journals	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	Total
Indian J Pure Appl Math	4	8	12	6	20	15	5	1	8	4	8	3	6	17	12	5	6	-	8	16	3	5	12	7	10	7	1	209
Math Student	1	1	1	1	6	12	7	1	4	2	2	5	-	7	8	-	7	5	4	3	4	-	15	-	-	2	5	103
Bull Calcutta Math Soc	1	4	52	-	8	10	-	-	5	5	1	-	-	8	-	-	3	3	12	1	-	7	2	2	2	6	-	132
Comm Statist Theory Methods	-	21	9	-	8	9	11	4	5	-	2	-	-	1	1	2	11	8	1	-	16	-	-	3	-	1	4	117
J Indian Math Soc (N S)	15	1	1	1	4	7	2	1	-	1	4	-	1	6	3	2	25	4	-	1	1	-	3	-	2	-	1	86
J Phys A	9	6	4	-	3	7	7	-	19	1	4	23	11	-	-	2	-	4	-	1	1	-	-	-	1	-	-	102
J Math Phys Sci	2	1	4	1	1	1	1	1	10	4	7	19	1	9	2	1	-	2	1	4	-	9	4	-	2	2	3	92
J Math Anal Appl	-	-	1	4	9	4	10	1	8	2	2	5	-	2	3	4	-	-	1	15	-	17	-	2	4	1	-	95
Fuzzy Sets and Systems	-	3	19	1	8	12	-	-	4	26	2	-	3	1	-	-	-	-	-	-	-	5	-	-	-	-	-	85
Asiophys and Space Sci	-	-	-	-	16	1	-	-	9	3	1	-	-	-	-	1	1	-	-	-	-	38	4	8	1	12	-	95
Proc Nat Acad Sci India Sect A	-	-	-	-	10	1	8	-	1	1	4	-	-	-	-	-	-	9	1	3	-	1	1	2	1	1	-	45
Math Ed (Siwan)	-	-	-	-	-	-	1	-	2	1	3	-	-	-	-	-	-	4	-	-	-	-	-	5	-	-	20	
Proc Indian Acad Sci Math Sci	30	1	-	10	2	-	-	4	-	5	23	7	2	4	-	4	3	2	-	-	1	1	-	-	-	-	1	71
J Math Phys	3	14	-	9	1	6	-	1	5	23	7	2	4	-	-	2	4	-	-	-	-	1	-	-	-	-	3	85
Calcutta Statist Assoc Bull	-	23	40	-	-	1	1	4	-	-	-	-	-	-	-	1	1	1	3	-	3	-	-	-	-	-	-	80
Modern Phys Lett A	38	6	2	4	-	7	3	-	-	9	-	-	14	1	-	-	-	-	-	-	-	-	-	-	-	-	-	84
Ganita	-	-	4	-	6	-	5	-	-	2	1	3	6	2	-	-	-	23	5	1	-	-	13	16	2	-	3	83
Phys Lett A	7	10	4	2	-	4	2	-	1	5	1	3	6	2	-	-	-	-	-	2	-	-	1	-	-	-	-	51
Sankhya Ser A	2	60	6	-	1	-	4	6	1	2	-	-	-	1	1	-	-	1	-	2	-	2	1	-	-	-	-	80
Tamkang J Math	-	-	-	-	4	6	1	-	2	-	-	1	-	16	-	-	-	1	11	26	-	3	1	3	4	-	7	75
Indian J Math	-	-	2	-	-	4	-	-	1	-	-	-	-	3	2	-	-	1	11	3	-	3	-	7	1	-	4	39
Pure Appl Math Sci	-	1	1	-	3	-	1	-	-	-	1	-	-	3	3	-	-	-	1	-	-	5	-	1	2	-	4	26
J Indian Acad Math	-	-	-	-	1	-	-	-	-	1	-	-	-	1	-	-	-	-	12	-	-	1	1	1	3	1	-	21
Internat J Math Math Sci	-	4	16	2	4	4	3	-	1	2	1	-	-	2	5	-	-	3	-	1	1	1	1	-	-	-	-	50
Sankhya Ser B	-	39	6	-	-	1	2	3	1	-	-	-	-	-	-	-	1	2	-	-	-	-	-	-	-	-	-	56
Vijnana Parishad Anusandhan Patrika	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	56
Soochow J Math	-	-	19	-	2	-	-	-	1	-	-	-	-	1	14	-	-	-	4	12	-	-	-	6	-	17	-	33
J Indian Statist Assoc	-	6	4	-	1	1	1	1	-	-	-	-	-	2	-	-	8	3	-	-	10	-	-	-	3	-	2	58
Internat J Theoret Phys	1	9	1	-	6	1	-	-	38	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	3	40
Phys Lett B	31	5	5	-	8	-	2	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	1	-	8	-	66
J Statist Plann Inference	-	28	6	-	1	6	-	-	1	-	-	-	-	1	2	2	-	-	-	3	-	-	-	-	1	1	-	48
J Indian Soc Agricultural Statist	-	9	-	-	2	2	-	-	-	-	-	-	-	2	-	-	1	5	-	1	1	-	-	3	-	-	-	26
Pure Math Manuscript	-	-	49	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52
Internat J Systems Sci	-	4	3	1	-	12	1	-	13	3	16	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	56

Table 12 contd.

Journals	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	Total
Statist Probab Lett	-	11	3	-	-	1	1	12	-	-	-	-	-	-	-	-	1	8	1	-	10	-	-	-	-	-	-	51
Math Soc	-	-	-	-	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	44
Phys Rev D (3)	11	-	-	8	-	2	7	-	-	1	-	-	5	1	-	-	-	-	-	-	-	-	-	-	-	-	-	35
Proc Amer Math Soc	4	5	2	1	1	3	1	3	1	-	1	2	1	1	1	1	2	-	-	-	3	1	-	-	-	-	-	35
Linear Algebra Appl	1	3	-	1	-	-	-	44	-	-	1	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	53
Internat J Modern Phys A	17	8	-	4	-	2	-	-	-	1	-	-	10	1	-	-	1	-	1	-	2	-	-	-	-	-	-	48
Nuclear Phys B	37	-	2	3	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44
Inform Sci	-	7	2	7	-	4	1	1	1	15	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	39
Math Today	-	-	1	-	-	-	1	-	-	-	-	3	-	5	-	-	1	-	-	-	3	-	-	-	-	-	-	25
Jnanabha	-	-	-	-	3	-	1	-	3	-	-	-	-	1	-	-	-	-	-	-	-	2	13	-	-	-	-	14
Progr Math (Varanasi)	1	-	-	-	31	-	-	-	1	-	1	-	-	-	-	-	-	2	-	-	-	2	-	-	-	-	-	39
Bull Inst Math Acad Sinica	-	-	3	-	2	-	2	-	1	-	1	-	2	3	-	3	-	4	-	-	-	2	-	1	4	-	-	24
Inform Process Lett	5	1	-	6	-	-	6	-	2	6	11	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44
Classical Quantum Gravity	13	2	-	-	-	-	-	-	-	3	-	4	-	-	-	-	-	-	1	-	5	-	2	-	-	-	-	31
Gen Relativity Gravitation	6	1	-	6	3	-	-	-	-	7	-	1	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	29
IAPQR Trans	-	6	11	-	-	2	-	-	1	-	-	-	-	-	1	-	4	-	-	-	1	-	-	-	-	-	-	26
J Bihar Math Soc	-	-	2	-	-	-	2	-	-	-	-	1	-	-	1	4	-	-	1	-	-	-	-	-	-	-	-	11
Opsearch	-	5	1	-	1	3	1	4	7	-	3	3	-	-	-	3	-	-	-	-	1	-	-	-	2	-	-	34
<b>Total</b>	<b>314</b>	<b>337</b>	<b>362</b>	<b>95</b>	<b>239</b>	<b>186</b>	<b>111</b>	<b>102</b>	<b>90</b>	<b>170</b>	<b>137</b>	<b>102</b>	<b>111</b>	<b>128</b>	<b>95</b>	<b>57</b>	<b>124</b>	<b>89</b>	<b>109</b>	<b>94</b>	<b>80</b>	<b>114</b>	<b>75</b>	<b>89</b>	<b>61</b>	<b>97</b>	<b>54</b>	<b>3039</b>

A -	Tata Inst Fund Res, Bombay	J -	Jadavpur University, Calcutta	S -	Kalyani University, Kalyani
B -	Indian Statistical Inst, Calcutta	K -	Indian Inst Technol, Kharagpur	T -	Marathwada University, Aurangabad
C -	Calcutta University, Calcutta	L -	Indian Inst Technol, Madras	U -	Poona University, Pune
D -	Indian Inst Sci, Bangalore	M -	Inst Mathemat Sci, Madras	V -	Andhra University, Vizakhapatnam
E -	Banaras Hindu University, Varanasi	N -	Madras University, Madras	W -	Gorakhpur University, Gorakhpur
F -	Delhi University, Delhi	O -	Aligarh Muslim University, Aligarh	X -	Rajasthan University, Jaipur
G -	Indian Inst Technol, Kanpur	P -	Indian Inst Technol, Bombay	Y -	Roorkee University, Roorkee
H -	Indian Statistical Inst, Delhi	Q -	Panjab University, Chandigarh	Z -	Institute of Technol, Varanasi
I -	Indian Inst Technol, Delhi	R -	Lucknow University, Lucknow	AA -	Karnatak University, Dharwad

Table 13: India's contribution to journal literature of mathematics categorised by leading institutions and subfields (MATHSCI 1988 - mid 95)

Institutions →	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	Total
00 GENERAL	1	1	3	2	2	1	1	2	2	2	1	1	1	3	3	1	1	1	1	3	2	2	2	2	2	1	1	8
01 HIST BIOGRAPH	9	1	2	3	2	2	1	3	1	2	1	1	1	3	3	1	1	1	1	3	1	1	1	2	1	1	43	
03 MATH LOG FOUND	7	13	10	2	11	2	12	6	2	14	1	5	1	2	2	7	2	1	1	1	1	11	1	1	1	1	108	
04 SET THEORY	1	10	28	1	13	14	1	2	27	3	6	1	6	1	1	1	1	1	1	1	1	5	1	1	1	1	111	
05 COMBINAT	18	30	11	13	5	4	9	6	8	7	21	3	12	2	16	3	2	2	2	1	3	2	9	1	5	10	200	
06 ORDER LATT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30	
08 GEN MATH SYS	158	1	6	4	1	3	1	2	1	4	49	5	4	5	36	4	4	4	4	3	11	6	6	3	3	3	298	
11 NUMB THEORY	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	23	
12 FIELD THEORY	33	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	44	
13 COMMUTAT RING	111	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	126	
14 ALGEB GEOMET	3	10	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	82	
15 LINEAR ALGEB	6	13	4	4	6	3	1	53	1	3	21	1	12	44	3	21	2	2	2	1	2	4	1	1	1	1	139	
16 ASSOC RING	40	1	2	2	16	1	1	9	16	4	10	9	1	9	1	1	1	1	1	1	1	1	1	1	1	1	109	
17 NONASSOC RING	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	3	
18 CATEG THEORY	14	4	27	1	2	2	2	2	2	19	4	7	17	10	10	10	10	10	10	10	10	10	10	10	10	10	10	7
19 \$K\$ THEORY	26	2	3	2	1	1	1	1	1	4	11	3	2	1	1	1	1	1	1	4	1	1	1	1	1	1	112	
20 GROUP THEORY	1	4	4	4	3	2	1	3	2	3	2	1	1	2	1	1	1	1	1	26	72	2	6	6	3	3	61	
22 TOPOLOG GROUP	3	5	7	7	2	2	1	2	1	2	1	1	1	1	1	1	1	1	1	14	14	1	1	1	1	1	136	
26 REAL FUNCTION	5	5	14	1	1	7	28	2	2	6	9	5	5	35	1	4	1	13	6	6	5	1	1	1	1	1	35	
28 MEASURE INTEGRAT	30	5	14	1	1	7	28	2	2	6	9	5	5	35	1	4	1	13	6	6	5	1	1	1	1	1	256	
30 FUNCT COMP VAR	16	3	4	4	8	2	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	
31 POTENT THEORY	5	3	43	3	43	3	2	1	5	1	6	4	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	51
32 SEVERAL COMP VAR	1	3	14	5	3	3	26	1	6	9	4	3	6	6	5	5	1	23	1	1	22	26	31	50	5	18	263	
33 SPECIAL FUNCT	15	2	1	23	2	3	8	2	11	55	1	3	6	2	6	1	1	1	1	3	10	2	1	1	1	1	141	
34 ORD DIFF EQUAT	39	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	156	
35 PART DIFF EQUAT	40	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	28	
39 FINITE DIFFER	41	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	55	
40 SEQUEN SER SUMM	42	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	90	
41 APPROX EXPAN	43	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	29	
42 FOURIER ANAL	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18	
43 ABSTRACT																												

Table 13 contd.

Institutions → Subjects	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	Total	
44 INTEG TRANS OPER	-	-	3	1	9	-	1	-	2	-	1	-	-	-	-	1	-	2	-	3	-	-	-	10	-	5	-	38	
45 INTEG EQUAT	-	2	-	3	2	1	12	1	-	-	-	-	1	-	-	6	-	3	-	10	-	4	-	1	-	2	-	48	
46 FUNCT ANAL	1	8	10	2	9	26	8	29	1	-	7	13	2	5	11	3	2	5	3	2	3	2	6	-	4	1	-	163	
47 OPER THEORY	-	3	13	3	1	28	4	21	2	3	2	6	1	2	15	17	3	-	2	4	12	4	-	2	-	9	1	158	
49 CALCULUS	1	-	1	6	5	6	1	1	13	1	3	3	-	-	2	2	-	-	-	-	-	-	-	-	3	1	1	50	
51 GEOMETRY	-	1	1	-	-	-	1	1	-	-	8	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	14	
52 CONVEX DISC GEOMET	3	-	-	2	1	-	2	-	1	-	4	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	15	
53 DIFF GEOMET	10	6	17	4	52	1	1	-	1	1	-	-	5	-	23	-	-	25	30	-	1	-	50	-	-	1	5	233	
54 GEN TOPOLOG	2	4	49	-	2	6	1	1	-	2	2	5	-	14	11	1	1	-	20	1	-	6	-	2	-	11	5	146	
55 ALGEB TOPOLOG	1	1	-	-	-	2	-	-	-	-	-	-	2	-	-	1	-	-	-	-	-	-	-	-	-	-	-	7	
57 MANIF CELL COMP	6	3	-	1	-	1	-	-	-	-	-	-	5	-	-	1	-	-	-	-	-	-	-	-	-	-	-	17	
58 GLOB ANAL	13	-	-	10	-	5	1	-	3	22	-	-	3	6	-	1	-	-	1	-	7	-	-	-	-	-	-	72	
60 PROB THEORY	3	41	15	10	1	15	-	31	5	-	2	19	2	5	1	7	5	-	-	4	18	1	-	-	-	3	2	190	
62 STATISTICS	-	273	74	1	34	29	28	50	10	-	1	-	-	13	15	11	43	60	10	7	67	2	3	33	1	-	16	781	
65 NUMER ANAL	1	2	5	21	3	1	17	1	40	3	8	9	-	1	-	15	2	5	1	-	2	-	-	-	3	1	-	141	
68 COMPUT SCI	32	17	9	34	1	1	16	-	18	5	28	29	12	-	-	11	-	-	-	-	1	-	-	-	-	-	-	215	
70 MECH PART SYS	2	-	-	8	-	1	1	-	2	2	-	1	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	19	
73 MECH SOLID	-	-	1	2	-	-	1	-	2	3	7	4	-	-	-	3	-	-	8	-	-	-	-	-	-	-	-	31	
76 FLUID MECH	2	14	15	29	24	3	11	-	10	4	6	6	1	-	-	11	5	2	3	-	2	-	4	1	-	4	-	157	
78 OPTIC ELECTROMAG	1	2	-	4	1	2	-	-	1	3	2	-	5	-	-	-	-	-	-	-	-	-	-	-	-	1	-	22	
80 CLASS THERMODYN	-	-	2	2	2	-	-	-	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	-	-	2	-	15	
81 QUANT THEORY	159	55	13	30	-	21	14	4	6	18	3	6	63	8	-	2	7	-	4	-	6	-	7	-	1	-	-	427	
82 STAT MECH	10	4	8	5	4	1	3	5	2	5	1	5	4	1	-	-	-	-	-	1	-	1	-	-	-	-	-	61	
83 RELAT GRAVITAT	45	4	3	6	36	4	3	-	1	49	5	3	3	-	4	3	-	-	1	3	7	42	10	10	3	30	1	276	
85 ASTRON ASTROPHYS	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1	-	5	
86 GEOPHYS	-	-	4	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	
90 ECONOM OPER RES	1	13	20	26	3	39	9	40	53	5	23	18	-	4	3	20	5	1	6	-	4	-	-	-	-	9	6	309	
92 BIOL NAT SCI	1	8	7	3	1	8	4	-	1	10	2	4	-	-	-	2	-	-	1	-	-	4	1	-	-	-	-	1	58
93 SYSTEM THEORY	-	-	5	23	1	1	6	4	12	-	33	3	-	-	-	13	-	-	-	-	-	1	-	-	1	1	-	104	
94 INFORM COMMUN	3	2	3	2	-	9	18	1	10	-	3	4	-	-	2	3	-	-	-	-	1	-	-	1	-	-	-	62	
Total	780	562	463	315	306	285	275	268	261	239	236	230	223	210	207	201	180	174	156	151	150	149	133	126	119	110	101	6610	

Table 13 contd.

A - Tata Inst Fund Res, Bombay	J - Jadavpur University, Calcutta	S - Kalyani University, Kalyani
B - Indian Statistical Inst, Calcutta	K - Indian Inst Technol, Kharagpur	T - Marathwada University, Aurangabad
C - Calcutta University, Calcutta	L - Indian Inst Technol, Madras	U - Poona University, Pune
D - Indian Inst Sci, Bangalore	M - Inst Mathemat Sci, Madras	V - Andhra University, Vizakhapatnam
E - Banaras Hindu University, Varanasi	N - Madras University, Madras	W - Gorakhpur University, Gorakhpur
F - Delhi University, Delhi	O - Aligarh Muslim University, Aligarh	X - Rajasthan University, Jaipur
G - Indian Inst Technol, Kanpur	P - Indian Inst Technol, Bombay	Y - Roorkee University, Roorkee
H - Indian Statistical Institute, Delhi	Q - Panjab University, Chandigarh	Z - Institute of Technol, Varanasi
I - Indian Inst Technol, Delhi	R - Lucknow University, Lucknow	AA - Karnatak University, Dharwad



Table 14: India's contribution to journal literature of mathematics categorised by impact factors of journals used and subfields (MATHSCI 1988 - mid 95)

Imp Factor range →	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Subfields															
00 GENERAL	8	-	-	-	-	-	-	-	-	-	-	-	-	-	8
01 HIST BIOGRAPH	109	-	-	-	-	-	-	-	-	-	-	-	-	-	109
03 MATH LOG FOUND	65	26	-	-	-	-	-	-	-	-	-	-	-	-	91
04 SET THEORY	91	125	-	-	-	-	-	-	-	-	-	-	-	-	216
05 COMBINAT	317	22	1	-	2	-	-	-	-	-	-	-	-	-	342
06 ORDER LATT	47	1	-	-	-	-	-	-	-	-	-	-	-	-	48
08 GEN MATH SYS	13	-	-	-	-	-	-	-	-	-	-	-	-	-	13
11 NUMB THEORY	355	12	2	2	1	1	1	-	-	-	3	-	-	-	377
12 FIELD THEORY	27	3	-	-	-	1	-	-	-	-	-	-	-	-	31
13 COMMUTAT RING	54	3	-	-	-	-	-	-	-	-	-	-	-	-	57
14 ALGEB GEOMET	74	19	4	4	-	2	2	-	-	-	1	-	-	1	107
15 LINEAR ALGEB	103	5	-	-	2	-	-	-	-	-	-	-	-	-	110
16 ASSOC RING	218	4	1	-	1	-	-	-	-	-	-	-	-	-	224
17 NONASSOC RING	60	9	22	4	27	3	7	-	-	-	6	-	-	-	138
18 CATEG THEORY	7	-	-	-	-	-	-	-	-	-	-	-	-	-	7
19 \$K\$ THEORY	4	3	-	-	-	-	-	-	-	-	-	-	-	-	7
20 GROUP THEORY	164	6	3	1	2	-	1	-	-	-	1	-	-	-	178
22 TOPOLOG GROUP	46	12	1	1	5	1	1	-	-	-	2	-	-	-	69
26 REAL FUNCTION	191	-	-	-	2	-	-	-	-	-	-	-	1	-	194
28 MEASURE INTEGRAT	51	1	-	-	2	-	-	-	-	-	-	-	-	-	54
30 FUNCT COMP VAR	404	1	-	-	-	-	-	-	-	-	-	-	-	-	405
31 POTENT THEORY	6	-	-	-	-	-	-	-	-	-	-	-	-	-	6
32 SEVERAL COMP VAR	45	2	1	1	-	-	2	-	-	-	3	-	-	-	54
33 SPECIAL FUNCT	534	5	2	-	5	-	-	-	-	-	-	-	-	-	546
34 ORD DIFF EQUAT	207	21	7	3	11	-	-	-	-	-	-	1	-	-	250
35 PART DIFF EQUAT	123	37	19	6	21	1	1	-	-	-	-	-	-	-	208
39 FINITE DIFFER	31	-	2	1	1	-	-	-	-	-	-	-	-	-	35
40 SEQUEN SER SUMM	128	-	1	-	-	-	-	-	-	-	-	-	-	-	129
41 APPROX EXPAN	167	3	-	1	-	-	-	-	-	-	-	-	-	-	171
42 FOURIER ANAL	134	3	-	-	-	-	-	-	-	-	-	-	-	-	137
43 ABSTRACT	26	-	-	-	-	-	-	-	-	-	-	-	-	-	26
44 INTEG TRANS OPER	103	2	-	-	-	-	-	-	-	-	-	-	-	-	105
45 INTEG EQUAT	81	-	-	-	-	-	-	-	-	-	-	-	-	-	81
46 FUNCT ANAL	264	6	-	-	-	-	-	-	-	-	-	-	-	-	270
47 OPER THEORY	296	5	-	1	1	-	-	-	-	-	-	-	-	-	303

Table 14 contd.

Subfields	Imp Factor range →	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
49	CALCULUS	72	9	1	-	-	-	-	-	-	-	-	-	-	-	82
51	GEOMETRY	29	1	-	-	-	-	-	-	-	-	-	-	-	-	30
52	CONVEX DISC GEOMET	12	3	-	-	1	-	-	-	-	-	-	-	1	-	17
53	DIFF GEOMET	322	11	11	-	-	1	1	-	-	-	-	-	1	-	347
54	GEN TOPOLOG	542	1	-	-	-	-	-	-	-	-	-	-	-	-	543
55	ALGEB TOPOLOG	16	-	1	1	-	-	-	-	-	-	-	-	-	-	18
57	MANIF CELL COMP	22	-	2	1	-	-	-	-	-	-	2	-	-	-	27
58	GLOB ANAL	37	23	23	6	26	5	4	-	-	-	-	-	3	-	127
60	PROB THEORY	262	16	4	1	3	-	-	-	-	-	-	-	-	-	286
62	STATISTICS	1187	25	14	12	-	-	-	-	-	-	-	-	-	-	1238
65	NUMER ANAL	155	12	6	2	2	-	-	1	-	-	-	-	-	-	178
68	COMPUT SCI	119	27	7	-	6	-	-	-	-	-	-	-	-	-	159
70	MECH PART SYS	24	10	3	1	4	4	-	-	-	-	-	-	-	-	46
73	MECH SOLID	64	4	-	1	-	-	-	-	-	-	-	-	-	-	69
76	FLUID MECH	202	17	5	5	3	3	-	-	-	-	-	-	-	-	235
78	OPTIC ELECTROMAG	11	10	2	1	2	-	-	-	-	-	-	1	1	-	28
80	CLASS THERMODYN	17	-	-	-	1	-	-	-	-	-	-	-	-	-	18
81	QUANT THEORY	56	55	191	6	79	55	56	-	-	-	34	1	12	-	545
82	STAT MECH	27	6	22	1	20	-	-	-	-	-	2	1	3	-	82
83	RELAT GRAVITAT	262	71	74	2	1	22	9	-	-	-	3	1	3	-	448
85	ASTRON ASTROPHYS	16	-	-	-	-	-	-	-	-	-	-	-	-	-	16
86	GEOPHYS	5	-	-	-	-	-	-	-	-	-	-	-	-	-	5
90	ECONOM OPER RES	405	29	4	-	2	-	-	-	-	-	-	-	-	-	440
92	BIOL NAT SCI	71	13	7	-	-	-	-	-	-	-	-	-	-	-	91
93	SYSTEM THEORY	93	25	-	-	-	-	-	-	-	-	-	-	-	-	118
94	INFORM COMMUN	96	9	7	-	-	-	-	-	-	-	-	-	-	-	112
Total		8677	713	450	65	233	99	85	1	-	-	57	5	25	1	10411

Non-journal items

947

A - $\geq 0.0 - < 0.5$	E - $\geq 2.0 - < 2.5$	I - $\geq 4.0 - < 4.5$	M - $\geq 7.0 - < 8.0$
B - $\geq 0.5 - < 1.0$	F - $\geq 2.5 - < 3.0$	J - $\geq 4.5 - < 5.0$	N - $\geq 8.0$
C - $\geq 1.0 - < 1.5$	G - $\geq 3.0 - < 3.5$	K - $\geq 5.0 - < 6.0$	
D - $\geq 1.5 - < 2.0$	H - $\geq 3.5 - < 4.0$	L - $\geq 6.0 - < 7.0$	

**Table 15: India's contribution to journal literature of mathematics  
categorised by leading institutions and impact factors of journals  
(MATHSCI 1988 - mid 95)**

IF range → Institutions	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Tata Inst Fund Res, Bombay	358	65	83	14	9	19	31	-	-	-	37	2	6	1	625
Indian Stat Inst, Calcutta	421	42	37	4	9	1	4	-	-	-	-	-	-	-	518
Calcutta Univ, Calcutta	407	22	8	-	5	-	-	-	-	-	-	-	-	-	442
Indian Inst Sci, Bangalore	159	46	24	2	1	10	8	1	-	-	3	-	3	-	257
Banaras Hindu Univ, Varanasi	276	12	2	1	5	1	-	-	-	-	-	-	1	-	298
Delhi Univ, Delhi	206	24	15	-	8	4	2	-	-	-	-	-	-	-	259
Indian Inst Technol, Kanpur	195	20	11	-	9	8	-	-	-	-	-	-	-	-	243
Indian Stat Inst, Delhi	190	23	5	4	1	-	-	-	-	-	-	-	-	-	223
Indian Inst Technol, Delhi	197	23	4	2	1	-	-	-	-	-	-	-	-	-	227
Jadavpur Univ, Calcutta	111	54	27	10	22	3	-	-	-	-	-	1	-	-	228
Indian Inst Technol, Kharagpur	163	50	4	-	7	1	-	-	-	-	-	-	-	-	225
Indian Inst Technol, Madras	168	21	6	-	5	-	-	-	-	-	-	-	-	-	200
Inst Math Sci, Madras	76	10	35	3	27	8	2	-	-	-	4	-	5	-	170
Madras Univ, Madras	165	6	4	1	11	1	-	-	-	-	-	-	-	-	188
Aligarh Muslim Univ, Aligarh	199	1	1	-	-	-	-	-	-	-	-	-	-	-	201
Indian Inst Technol, Bombay	139	18	1	1	1	-	-	-	-	-	-	-	-	-	160
Panjab Univ, Chandigarh	152	15	3	1	2	-	-	-	-	-	-	-	-	-	173
Lucknow Univ, Lucknow	168	1	1	1	-	-	-	-	-	-	-	-	-	-	171
Kalyani Univ, Kalyani	141	-	2	1	6	-	-	-	-	-	-	-	-	-	150
Marathwada Univ, Aurangabad	146	1	2	-	-	-	-	-	-	-	-	-	-	-	149
Poona Univ, Pune	106	5	9	1	7	1	-	-	-	-	-	-	2	-	131
Andhra Univ, Vizag	133	6	-	-	-	-	-	-	-	-	-	-	-	-	139
Gorakhpur Univ, Gorakhpur	125	1	6	-	-	-	-	-	-	-	-	-	-	-	132
Rajasthan Univ, Jaipur	118	1	-	-	-	-	-	-	-	-	-	-	-	-	119
Roorkee Univ, Roorkee	110	3	-	-	1	-	-	-	-	-	-	-	1	-	115
Inst of Technol, Varanasi	103	5	2	-	-	-	-	-	-	-	-	-	-	-	110
Karnatak Univ, Dharwad	96	-	-	-	-	-	-	-	-	-	-	-	-	-	96
<b>Total</b>	<b>4828</b>	<b>475</b>	<b>292</b>	<b>46</b>	<b>137</b>	<b>57</b>	<b>47</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>44</b>	<b>3</b>	<b>18</b>	<b>1</b>	<b>5949</b>

A -- $\geq 0.0$ - < 0.5	H -- $\geq 3.5$ - < 4.0
B -- $\geq 0.5$ - < 1.0	I -- $\geq 4.0$ - < 4.5
C -- $\geq 1.0$ - < 1.5	J -- $\geq 4.5$ - < 5.0
D -- $\geq 1.5$ - < 2.0	K -- $\geq 5.0$ - < 6.0
E -- $\geq 2.0$ - < 2.5	L -- $\geq 6.0$ - < 7.0
F -- $\geq 2.5$ - < 3.0	M -- $\geq 7.0$ - < 8.0
G -- $\geq 3.0$ - < 3.5	N -- $\geq 8.0$

Cumulative No. of Papers (Thousands)

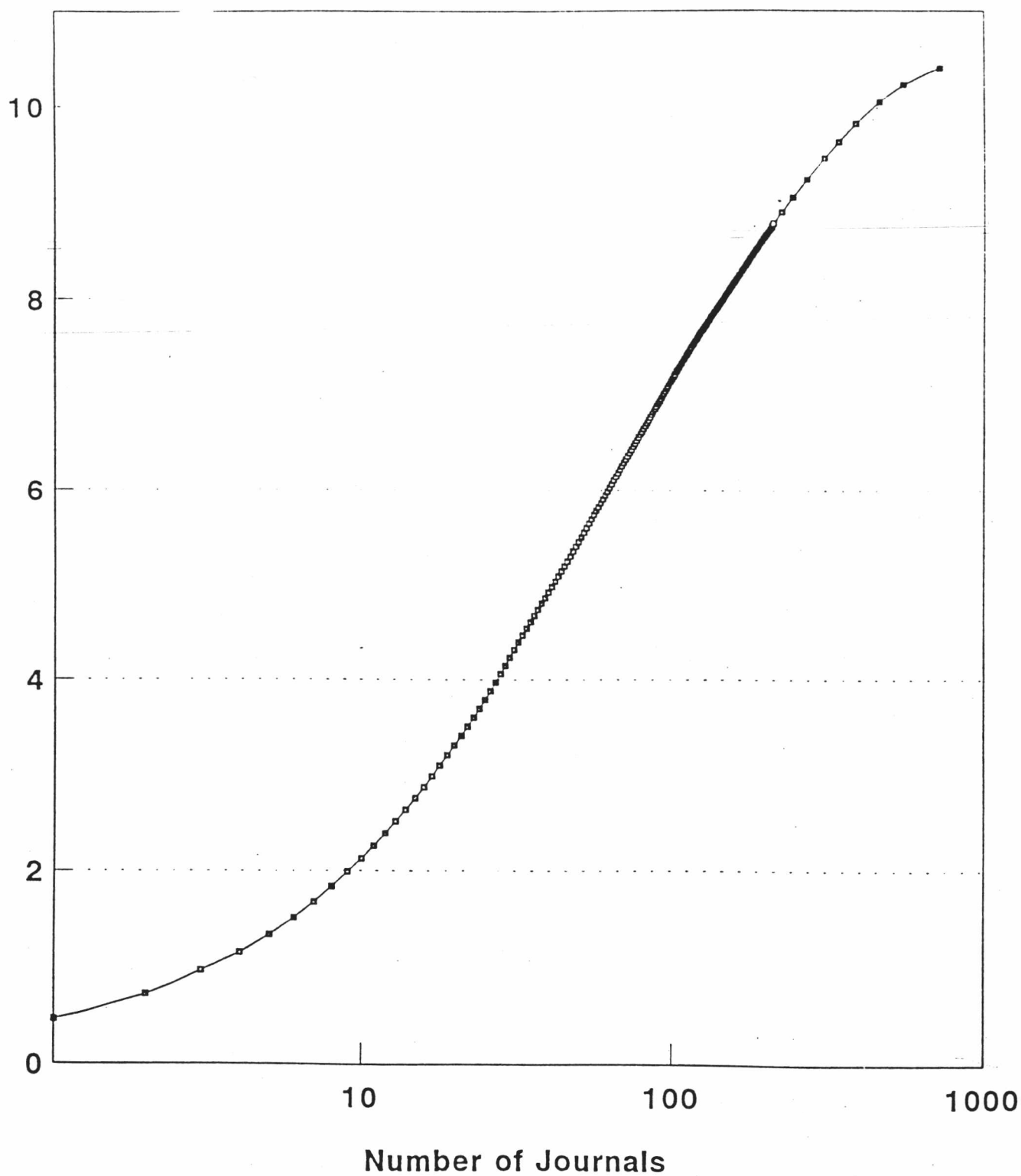


Fig 1. Number of Journals Vs Cumulative Number of Articles.





