Publication Indicators for Science in India Based on International Databases

PART 3

India's Contribution to the Literature of Materials Science and Related Fields: An Analysis Based on *Materials Science Citation Index* 1991 - 1994

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Submitted to the
Department of Science and Technology
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Dedicated to
the artisans of ancient India
who worked wonders with metals and other materials
but who died unsung and nameless,
and the countless inheritors of their grand tradition in modern India,
most of whom also remain unknown and unrewarded

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

Years ago I heard an anecdote about Einstein. One evening, a tired Einstein boarded a bus and was asked where he was going. Einstein looked nonplussed and told the driver that he didn't know. The driver commented, as the story goes, "That's the problem with you physicists. You don't know where you are going." On hearing this, Einstein's eyes lit up and he remarked, "Well said, young man. Indeed, in physics today no one knows where we are headed"! It may very well be a story cooked up to reinforce the image of scientists as absent-minded professors. But it suits me well on this occasion.

It is important for scientists and science policymakers to know where they are headed! Periodic assessment and performance evaluation are important elements in any public funded activity. Stocktaking can help one make midcourse corrections. I would like to commend the Department of Science and Technology not only for the foresight to have embarked on such a project but also for commissioning the right man to carry it out. I cannot imagine anyone in India who can match the commitment and expertise of my colleague, Sri Subbiah Arunachalam to carry out this task. His knowledge and enthusiasm have earned him much appreciation. He is on the editorial boards of more than half a dozen refereed professional journals and he is a regular invitee to international conferences in scientometrics. Over the past fifteen years he has written about science in India and his writings have been read widely.

Although India had made, in the hoary past, several major innovations in materials, witness the iron pillar in Qutab Minar and the Wootz steel used in making the famed Damascus swords, there was a decline in our capabilities starting from the mid-18th century. In the mid-twentieth century, however, there was a revival of interest in materials science research and today materials science is justly considered an area of strength. There is considerable amount of activity in a wide spectrum of problem areas. The time is indeed ripe for an evaluation of what we have achieved so far.

Sri Arunachalam and his colleagues, N Meyyappan and G S Sridhar, have analysed in this part of the report voluminous data culled out from four annual volumes of *Materials Science Citation Index*. The data analysed is fairly recent and the analysis includes a wide range of elements, including prolific publishing institutions, institution types, journals used along with their impact factors and countries of origin, and subfields in which Indian researchers are most active. While many of the findings may be known to experienced materials scientists, there are some which are revealing.

Surely this report will be of considerable use to policymakers not only at the Ministry of Science and Technology but also at the Planning Commission. I have no hesitation in recommending this report to materials science researchers.

Together with the other parts of the report Sri Arunachalam and colleagues are preparing, based on other international databases, soon we will have some solid data to frame our policy.

26 MARCH 1996

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Preface

Over 25 years ago, when I was a student at the Indian Institute of Science, Bangalore, I was sent to the Materials Science Division of the National Aeronautical Laboratory to work under the guidance of Dr S R Rajagopalan and learn experimental techniques in optics, spectroscopy, electrochemistry and instrumentation. My stay at NAL proved to be an exciting experience. Apart from working closely and learning from a master of experimental techniques -- Prof. Roddam Narasimha called him a 'wizard' -- I came in close contact with a number of young researchers interested in some aspect or the other of materials science: G S Ranganath, T G Ramesh, Rajaram Nityananda, Ashoke Chatterjee, T S Kannan and Ramesh Narayan. It was there I met Dr V S Arunachalam as well. It was during my stay at NAL that I realised that materials science and engineering would become increasingly important.

One afternoon, at the lunch table, Prof. Ramaseshan, head of the NAL Materials Science Division, was talking about a visitor working in the area of charge coupled devices and wanted to know if anyone of us at the table could look up the literature and brief him on CCDs. That evening I spent some time at the library and, with some help from Kannan, collected abstracts of over 40 papers/reports on CCDs and placed them on the table of the old man even before he came into the office the next morning. That chance incident led an elated Prof. Ramaseshan to hire me to work for the Indian Academy of Sciences, where I worked for two years, editing journals, running the Academy's office, conducting the meetings and the elections and doing sundry other things. It was while I was working for the Academy, I met Gene Garfield for the first time and played host to him. The two years at the Academy, no doubt, provided me ample opportunities to have a ring side view of scientists and the scientific establishment at work. When the time came for me to abandon a laboratory career, I was ready to plunge into scientometrics research.

Many years later, when I was the editor of Indian Journal of Technology, I came across an NSF Report on the strengths and weaknesses of science in India. A number of American experts who had visited and worked in India as well as some experts of Indian origin working in the United States were invited to a discussion meeting and a scientometricist, Bob Coward, was commissioned to look at the literature and carry out a bibliometric study. The NSF Report concluded that materials science was an area of strength in India. A few years later, I planned a special issue on materials science and engineering and invited Prof. P Rama Rao, who subsequently became the Secretary in the Department of Science & Technology, Prof. S Ranganathan and Prof. Subrata Ray to be the guest editors.

Thus, I have been associated with materials scientists and have been observing developments as a disinterested observer for more than two decades. It was only a question of time before I attempted a quantitative study of materials science research in India, and the time has come!

Subbiah Arunachalam
26 March 1996

Materials Science Research in India: An Analysis Based on *Materials Science Citation Index* 1991-1994

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Abstract

As part of mapping scientific research in India, we have looked at India's contribution to materials science research as seen from *Materials Science Citation Index* (*MSCI*) 1991-94. India contributes approximately 3% of world's literature in this area. Although the actual number of publications from India has risen from 2,710 in 1991 to 3,208 in 1994, India's rank has come down from eighth to tenth in the four-year period. During the same period China and Italy have overtaken India and are now occupying eighth and ninth ranks. More than 87% of India's papers are full length articles. Only 1.1% are review articles reflecting that pressure for consolidating discoveries in the form of review articles is rather low. Only 1.3% are letters (as classified by the database), and one would think that there is no pressure for establishing priorities for novel discoveries. In reality though there are many more letters (e.g. the 1,218 papers published in 32 journals whose titles carry the word 'letters' or 'communications') which the database has not classified so. Of the 632 journals used to publish 11,762 papers, *Physical Review B -- Condensed Matter, Journal of Materials Science Letters, Journal of Applied Polymer Science* and *Bulletin of Materials Science* are the ones in which Indian researchers publish most often. Approximately 5% of the papers have been published in journals with impact factor greater than 3.0 and more than 57% of the papers have been published in journals with impact factor less than 1.0. In terms of number of papers published, India appears to be strong in condensed matter physics, polymer science, applied physics and crystallography. Indeed, a very large number of papers appearing in high impact factor journals are in the area of condensed matter physics and a smaller number in applied physics. Indian researchers have used journals published from the USA, UK and the Netherlands most often. Less than 10% of papers have been published in about 25 Indian journals. In contrast, more than 56% of papers from Indian laboratories in biology and about 67% in agriculture are published in Indian journals. Bulk of India's materials science research occurs in universities and colleges. Among government-funded research institutions, CSIR and DAE laboratories perform most of the research. More than 525 Indian institutions have published papers in materials science in the four-year period. The Indian Institute of Science, the five Indian Institutes of Technology, Bhabha Atomic Research Centre, Tata Institute of Fundamental Research, National Physical Laboratory and Banaras Hindu University are among institutions publishing very large number of papers in this area. The data collected are subjected to usual scientometric analysis.

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Introduction

Advanced materials constitute one of the most significant of the enabling technologies. Today materials science constitutes together with biotechnology and information technology the three most important growth areas. It should be remembered that even the tremendous advances that are taking place in information technology owe a great deal to advances in materials science which had led to the development of electronic and optical materials without which very large scale integration and fibre optic communication would not have been possible. Indeed Professor C N R Rao, one of India's leading science policy makers, suggests the use of advanced technology materials as an index of development.[1] "New materials certainly are the fountainhead for new materials science," says Prof. Rustom Roy.[2] Besides, new materials -- Teflon, polyethylene, magnetic garnets, new zeolites -- all have led rather directly to new technologies.[2]

No wonder then national research programmes in Japan, the USA, Western Europe, and indeed throughout the world have been specifically targeted on the design and processing of materials systems conceived with precise attention paid to composition and structure at all levels of dimensional scale.

There was a time when metals so dominated mechanical design that ignorance of the potential of other materials was hardly a handicap. But that has dramatically changed. Today the design engineer has a choice of 50,000 - 80,000 materials for a wide range of applications, from the most integrated of microelectronics to the most massive of civil engineering structures.

In general, materials are classified into six categories: metals, ceramics, glasses, elastomers, polymers, and composites. The name of the game today is to tailor make artificial materials -- conceived and fabricated by the use of skill -- to endow specific properties to meet the requirements for particular applications. It is for this reason materials scientists are greatly interested in correlating chemical composition, metallurgical structure, processing, properties and performance of materials. In this pursuit, they have wide-ranging concerns, ranging from positioning of atoms on surfaces to the design of alloys for oil and gas drilling pipes. Of course, the materials technologists would also need to have a range of technical and business skills before the materials developed can be produced in large quantities and put to proper use. The materials designer usually employs diagrams relating properties such as fracture toughness, strength,

density, Young's modules, optical parameters and electrical parameters to map existing materials and to be able to invent new materials. Often he has to work to meet stringent demands such as designing inexpensive and lightweight steel parts in automobiles without sacrificing safety and devising ultra large scale integrated chips of higher device speeds at low cost.

As problems in materials science research demand a variety of skills, they attract researchers from diverse fields: inorganic chemists, physical chemists, solid state chemists, metallurgists, condensed matter physicists, and so on. Often researchers with disparate skills and expertise collaborate on difficult problems.

The Indian Scene

Materials science research in India is acknowledged to be an area of strength.[3] It has always been. For example, India was the first in the world to produce the metal zinc two thousand years ago. More than three centuries ago, between 1660 and 1670 A.D., India exported to Western Europe nearly 6.5 tons of "Wootz steel" in small lumps of unspecified size made by the crucible process developed in the Deccan. The famed Damascus swords were made from Indian steel. Today Indian materials science researchers are working in a wide variety of areas. For example, in a special issue of *Indian Journal of Technology* (Vol. 28, June-August 1990) devoted to materials science and engineering, guest edited by Professors P Rama Rao, S Ranganathan and Subrata Ray, there were articles written by Indian scientists on the following areas:

Al-Li alloys
Biomaterials
Bubble memory materials
Cast metal matrix composites
Conducting glasses
High T_C superconducting materials
Intermetallics
Nuclear fuel materials
Oxidation-resistant high temperature alloys
Quasi crystals
Rare earths
Special steels for fast breeder reactors
Super absorbent polymers.

There were also articles on the following techniques:

Computer modelling of mechanical processing
Texture and formability of materials
Solidification process modelling
Space processing of materials
Ion implantation
Auger electron spectroscopy.

In a report prepared for the Science Advisory Council to the Prime Minister of India, Rama Rao *et al.*[4] have argued that the advanced materials programme for India should be formulated keeping in mind not only the future materials needs of our technologies but also the national resources position, the indigenous situation in the area of materials processing, the current level of manufacturing infrastructure and constraints imposed by the funds position. They argue rightly that we need to restrict ourselves to a few advanced materials rather than to spread the available resources thin on a large number of materials. One of the recommendations they have made is to review current status of R & D and quantum of work carried out by different institutions in India.[4] It is this report that motivated us to carry out this exercise. We believe that an analysis of publications originating from Indian laboratories in materials science and related areas should form an integral part of 'the review of current status' and 'assessment of the quantum of work '.

Our analysis is based on *Material Science Citation Index* (*MSCI*) 1991-94 and deals with a total of more than 12,000 papers from India. [*MSCI* is a particularly good database for our purpose, as it is a multidisciplinary database that covers a large number of journals (including about 25 titles from India) and as it is available in CD-ROM with an excellent search software. It is very rarely, if at all, Indian researchers would publish papers in journals not indexed in this database.] After looking at India's contribution in terms of number of papers in the perspective of contributions from several other countries, we looked at the journals used by Indian scientists, the impact factors of those journals and their countries of origin and subfield classification, institutions involved and their types. Researchers from more than 525 institutions have published their work in more than 630 journals (of which 25 are Indian journals). We have identified institutions contributing prolifically and journals most often used. We also provide information on journals often used by different institutions.

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Materials Science Citation Index

Materials Science Citation Index, published and distributed by the Institute for Scientific Information, Philadelphia, PA, USA, is a database with searchable author abstracts, to the literature of materials science. It is available in CD-ROM format and covers the literature of materials science and related fields. It fully covers about three hundred international journals (a few of them from India) specifically related to materials science. It indexes every significant item including articles, letters, notes, corrections, reviews, discussions, bibliographies and editorials, in every publication it fully covers. In addition, selective coverage includes relevant items drawn from about 7,000 other journals (including 25 Indian journals) covered in the multidisciplinary ISI database and papers from important conference proceedings. *MSCI* can be used as conventional author-subject indexes. Unique features of this database are:

Cited reference searching
Related records
Author abstracts
Author keywords and keywords plus
Publisher information and conference proceedings

Unlike many other secondary services, *MSCI* lists addresses of all the authors for each paper it indexes, and in each case it also gives the country name. The search software included in the CD-ROM disc is user friendly. The database readily allows one to make scientometric studies.

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Analysis

In terms of number of publications published annually (including articles, letters, notes, reviews, editorials, etc.) India ranked 8th in the world in 1991 and 1992, 9th in 1993 and 10th in 1994. People's Republic of China which was lagging behind India till 1992 has moved ahead of India since then. Another country which has overtaken India is Italy, which has moved from the tenth position in 1991, 1992 and 1993 to the ninth in 1994.

Table 1 presents data on the number of publications indexed in four consecutive years of *Materials Science Citation Index* (*MSCI*) from India and several other countries -- some advanced and others middle-level and comparable to India in terms of investment in science and size of the research enterprise. USA leads the world followed by Japan and Germany, the three of them accounting for more than half of the world's publications.

Because of the tremendous political changes that have taken place since the collapse of the Soviet empire, bibliometric analysts face the problem of assigning papers to the two Germanies (which have now come together to form a single nation), Russia and other Republics of the Commonwealth of Independent States (which till recently constituted the Soviet Union), the Czech and Slovak Republics (which were together as Czechoslovakia), and Yugoslavia (which broke into several smaller nations).

Table 2 provides a break-up of all Indian publications into different document types. From this table it would appear that Indian materials science researchers write very few letters and review articles. There seems to be some error in the way ISI, the publisher of *MSCI,* decides document types. We find that Indian scientists have published 1,218 papers in journals whose titles carry the word "letters" or "communications" (Table 3).That works out to about 10% of all Indian papers in the four-year sample considered here. [About 9% of the papers are classified as "Notes", and these may very well be 'letters' and 'communications'.] Close to 12% of Indian papers in physics are in letters journals.[5] Often, letters are written when authors want to establish claims of priority for novel ideas, and review articles are written by experts to integrate and consolidate work in an area, usually in a fast growing research front. However, the number of review articles written by Indian materials researchers is small. Even in physics, the number of review articles written by Indian authors is rather small (very much less than 1% of all journal articles).[5] This should be a matter for concern. Indeed, Prof. Rustom Roy, known for his contribution to science policy analysis, suggests that third tier countries, with limited funds and facilities for research, should devote a considerable part of their research effort to literature analysis.[2]

As expected, Indian researchers publish their work almost invariably in English (Table 4). Of the more than 12,000 publications in materials science, all but five were in English. Two were in Russian, and one each in Czech, French and German.

Table 5 shows that Indian researchers used frequently *Physical Review B: Condensed Matter*, USA (458 papers) followed by *Journal of Materials Science Letters*, UKD (385 papers) and *Journal of Applied Polymer Science*, USA (370 papers) for communicating their findings. *Bulletin of Materials Science*, India, comes fourth in that series with 330 papers. In the four years considered, Indian materials researchers have published more than 100 papers in each of 25 journals. Another 32 journals carried 50 or more papers each. At the other extreme, 170 journals carried just one article each from

India. Indian researchers have used more than 625 journals published from more than 25 countries to publish 11,847 papers. Not all the journals were used every year though. They had also presented 258 papers at 60 conferences, and had published 65 papers in books. [There may be a few mis-classifications, as the database has not given the country for all conferences and books; but that will not materially alter the relative proportions of journal papers, conference papers and books.] All the papers were classified into subfield categories based on the journals in which they had appeared. Many of these journals are also indexed in *SCI* and therefore we used the *SCI* classification of journals. For those journals which were not covered in *SCI*, we assigned the subfields based on the title words.

Table 6 gives the numbers of papers published by Indian researchers in journals of different impact factor ranges. In general, the higher the impact factor of a journal, the greater will be the difficulty in getting a paper published in it. That India has published more than 5% of its journal papers in journals with impact factor higher than 3.0 is a matter for satisfaction. Indian scientists have published, in the four years considered, 714 papers in about 160 journals not indexed in *Science Citation Index*. In general, it will be a good strategy to publish one's work in journals with high visibility, and coverage by *SCI* confers that to a great extent.

Table 7 provides the number of papers belonging to different subfields. Notice that the total far exceeds the actual number; that is because many journals are classified under more than one subfield. For example, *Journal of Physics and Chemistry of Solids* is classified under both condensed matter physics and chemistry, and *Physics and Chemistry of Glasses* is classified under both physical chemistry and ceramics. Also, many journals are classified in *SCI Guide* as materials science journals. We did not attempt to reclassify them into subfields of materials science. In Table 7a, we have assigned each journal to only one subfield. In most cases it is the subfield which has alphabetical precedence. From these tables, it is seen that condensed matter physics, polymer science and applied physics are areas of considerable activity. India's strength in crystallography, analytical chemistry and physical chemistry is also evident.

Table 8 provides data on journal country. Indian materials researchers used American journals most frequently, followed by British and Dutch journals. Almost 10% of the papers were published in Indian journals. In other areas Indian journals are used to a much greater extent. For example, 18.8% of physics papers (as seen from *Physics Abstracts* 1992),[5] 35% of papers in mathematics and related fields (as seen from *Mathsci* 1988-

1995)[6], 56% of papers in biology (as seen from *BIOSIS* 1993-94)[7] and 67% of agricultural research papers (as seen from *CAB Abstracts* 1992)[8] from Indian institutions have appeared in Indian journals. Twenty-six Indian journals were used to publish 1,162 papers (Table 9). Actually, the number is 25; one of the journals, viz. *Indian Journal of Technology* was split into two new titles in 1994. Apart from journals published by the Indian Academy of Sciences (serial numbers 1, 6, 12, 15) and the Council of Scientific and Industrial Research (3, 4, 5, 10, 11, 13, 14, 16, 21), the two leading publishers of scientific journals in India, society journals (2, 7, 9) have also been used to publish many papers from Indian laboratories. Materials Society of India and the Indian Institute of Metals are among the better-managed scientific societies of India.

Table 10 lists Indian institutions that have published papers in the field of materials science and Table 11 provides information on the distribution of papers by type of institution. Academic institutions contributed 65.9% of the publications followed by research organisations with 26.58%. Indian Institute of Science has published the most number of papers in the field of materials science. The five Indian Institutes of Technology, Bhabha Atomic Research Centre and Banaras Hindu University are the other prolific publishing institutions. These are followed by National Physical Laboratory and Tata Institute of Fundamental Research. In all, more than 530 institutions published 12,084 papers in the four-year period, with 13 institutions contributing more than 200 papers each. A plot of number of journals vs. cumulative number of articles is given in Figure 1.

Among the universities, Banaras, Jadavpur, Anna, Osmania, Sri Venkateswara and Poona Universities have published more than 150 papers each in the four-year period reviewed. National Physical Laboratory, National Chemical Laboratory, and Central Electrochemical Research Institute are the leading laboratories under the Council of Scientific and Industrial Research, which also includes National Metallurgical Laboratory, Central Glass and Ceramics Research Institute and National Aeronautical Laboratory (now renamed National Aerospace Laboratories), all of which have active materials science research groups and programmes. Defence Metallurgical Research Laboratory is the only Defence laboratory to have published more than 150 papers in materials science in the four years. Vikram Sarabhai Space Centre is the leading Department of Space laboratory in this field.

Table 12 lists the cities/ towns active in materials science research. Bombay comes first with 1,357 papers, followed by Bangalore, Delhi and Madras, each having more than

1,000 papers. 19 cities/ towns had published more than 100 papers each. Among the states, Maharashtra, West Bengal, and Tamil Nadu account for about 44% of the papers published from India (Table 13). Incidentally, the first three Indian universities were established in Bombay, Calcutta and Madras, the capitals of these three states. Karnataka, Uttar Pradesh and Delhi also contribute a large number of papers. This is not surprising considering the fact that Bangalore is fast emerging as the high-tech city of India and both Uttar Pradesh and Delhi have many central government funded higher education and research institutions.

In Table 14, we provide information on the distribution of Indian research papers in different subdisciplines in journals classified by impact factors. Physics-related subfields account for a large number of papers in high-impact journals. For example, there are 458 papers in condensed matter physics journals having impact factors in the range 3.0 - 3.5, and 97 applied physics papers in journals of impact factors in the range 3.5 - 4.0. More than 60 papers in physical chemistry have appeared in journals with impact factors higher than 2.5.

In Table 15, we provide a matrix of subfields of materials science and countries of publication of journals in which Indian researchers have published their work. For example, in the field of crystallography, Indian papers have appeared mostly in journals published from Germany (246 papers), Denmark (195), Canada (107), UK (99) and the Netherlands (62). In analytical chemistry, most papers have appeared in Dutch journals. In metallurgy, chemistry, physics and textiles, the largest number of Indian papers have appeared in Indian journals. US journals have been used often to publish papers in condensed matter physics, polymer science, applied physics, computers and metals and minerals. British journals are preferred in the areas of engineering, mechanical engineering, electrical engineering, civil engineering, electrochemistry, nuclear science, and plastics.

Table 16 provides data on the use of high impact journals by different institutions. Indian Institute of Science has published 95 papers in journals of impact factors higher than 3.0 and Tata Institute of Fundamental Research has published 62 papers. Other institutions which have published at least 15 papers in journals of impact factors greater than 3.0 are: National Physical Laboratory (33), Bhabha Atomic Research Centre (29), Indian Association for the Cultivation of Science (27), Indian Institute of Technology, Kanpur (27), Saha Institute of Nuclear Physics (23), Indian Institute of Technology, Bombay (18), University of Calcutta (18), and University of Poona (18). One can also find out the subfields in which different institutions have published in high impact journals.

Conclusion

Materials science is an area of considerable activity in India. A panel of American experts assembled by the US National Science Foundation in the mid-1980s concluded that materials research was an area of scientific strength in India and therefore it would be profitable for the United States to mount joint Indo-American collaborative research projects in this field.[3] Our analysis of publications originating in India and indexed in *Materials Science Citation Index* 1991-1994 confirms this view. Indian materials scientists have performed better than scientists in other branches, feels Prof. Kamanio Chattopadhyaya of the Department of Metallurgy at the Indian Institute of Science. Probably he is right.

In all, India accounts for about 3% of the journal literature of materials science; however, between 1991 and 1994, India slipped from the eighth to the tenth rank in the number of papers published. Materials science research is carried out in more than 500 institutions, but only a few of them such as the Indian Institute of Science and National Physical Laboratory have published a reasonable number of their papers in high-impact journals. By publishing their work mostly in foreign journals -- far more than their counterparts in other fields such as mathematics, physics, biology, and agriculture -- Indian materials scientists are seeking greater visibility in world science. About 5% of their papers have appeared in journals with an impact factor greater than 3.0. A substantial part of these high-impact journals is in the fields of condensed matter physics and polymer science.

One of us has looked at the extent of international collaboration involving India as one of the collaborating countries in this area.[9] For example, authors from Indian and United States addresses have collaborated in more than 440 of the 12,084 papers included in this study. In all, about 10% of papers (indexed in *MSCI* 1991-1994) are co-authored with non-Indian authors.

One of us has looked at the extent of international collaboration involving India as one of the collaborating countries in this area.[9] For example, authors from Indian and United States addresses have collaborated in more than 440 of the 12,084 papers included in this study. In all, about 10% of papers (indexed in *MSCI* 1991-1994) are coauthored with non-Indian authors.

If the suggestions made by Rama Rao *et al.*[4], in their report to the Science Advisory Committee to the Prime Minister, are taken seriously, Indian scientists could not only do research that is more relevant to the country's needs but also could publish a higher proportion of their work in high-impact journals and win greater visibility. About two-thirds of the papers from India come from academic institutions, not all of them well funded and

well equipped. A study of the dependence of research productivity on funds allocated will enhance the value of the mapping exercise carried out here. In a future study, one could also look at the level of information access and how it affects the performance of Indian researchers.

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Tables

Table 1: The relative position of India in terms of number of papers published as seen from *MSCI* 1991-1994
[Numbers in parantheses denote ranks]

Sl No.	Country	Number of papers					%
		1991	1992	1993	1994	Total	
1	USA	23584 (1)	25339 (1)	30507 (1)	34938 (1)	114368	28.3
2	JAPAN	10326 (2)	12913 (2)	14532 (2)	16204 (2)	53975	13.3
3	GERMANY	8198 (4)	8950 (4)	9608 (3)	11035 (3)	37791	9.3
4	SOVIET UNION*	9136 (3)	10724 (3)	7269 (4)	7286 (6)	34415	8.5
5	UNITED KINGDOM	5254 (5)	6089 (5)	6916 (5)	7921 (4)	26180	6.5
6	FRANCE	5000 (6)	5982 (6)	6898 (6)	7650 (5)	25530	6.3
7	CANADA	2994 (7)	3314 (7)	3904 (7)	4529 (7)	14741	3.6
8	P R CHINA	2208 (9)	2892 (9)	3718 (8)	3683 (8)	12501	3.1
9	**INDIA**	**2710 (8)**	**2961 (8)**	**3205 (9)**	**3208 (10)**	**12084**	**3.0**
10	ITALY	2032 (10)	2501 (10)	2821 (10)	3422 (9)	10776	2.7
11	THE NETHERLANDS	1430 (12)	1689 (12)	1827 (12)	2315 (11)	7261	1.8
12	POLAND	1666 (11)	1704 (11)	1686 (13)	1877 (13)	6933	1.7
13	SPAIN	1250 (13)	1597 (13)	1906 (11)	2163 (12)	6916	1.7
14	SWEDEN	1016 (15)	1109 (16)	1468 (14)	1714 (14)	5307	1.3
15	AUSTRALIA	973 (16)	1229 (14)	1461 (15)	1625 (16)	5288	1.3
16	SWITZERLAND	1047 (14)	1146 (15)	1323 (16)	1643 (15)	5159	1.3
17	BELGIUM	651 (18)	755 (18)	963 (17)	1210 (17)	3579	0.9
18	CZECKHOSLOVAKIA	796 (17)	979 (17)	736 (19)	776 (19)	3287	0.8
19	ISRAEL	589 (19)	704 (19)	822 (18)	948 (18)	3063	0.7
20	DENMARK	336 (21)	462 (20)	497 (20)	713 (20)	2008	0.5
21	HUNGARY	387 (20)	384 (21)	434 (21)	436 (21)	1641	0.4
	Total	81583	93423	102501	115296	392803	
	World Total	**83510**	**94703**	**107723**	**118581**	**404517**	

* In *MSCI* 1991, Soviet Union is the only entry. For the later years, we have clubbed all the individual Republics which originally formed the Soviet Union (for the sake of convenience).

Table 2: India's contribution to materials science as seen from *MSCI* 1991-1994, classified by document type

Sl No.	Document type	Number of papers					%
		1991	1992	1993	1994	Total	
1	Article	2333	2558	2835	2825	10551	87.3
2	Note	269	304	278	280	1131	9.3
3	Letter	46	38	35	36	155	1.3
4	Review	32	26	38	33	129	1.1
5	Discussion	13	21	6	7	47	0.4
6	Editorial	12	8	5	10	35	0.3
7	Meeting-Abstract	4	5	1	13	23	0.2
8	Correction	-	-	6	4	10	0.1
9	Biographical-Item	1	-	-	-	1	-
10	Reprint	-	-	1	-	1	-
11	Software-Review	-	1	-	-	1	-
	Total	2710	2961	3205	3208	12084	100.0

Table 3: Letters and communications journals in which Indian scientists have published as seen from *MSCI* 1991 -1994

Sl No.	Journal title	Number of papers				
		1991	1992	1993	1994	Total
1	JOURNAL OF MATERIALS SCIENCE LETTERS	80	109	109	87	385
2	SOLID STATE COMMUNICATIONS	82	82	66	60	290
3	ACTA CRYSTALLOGRAPHICA SECTION C-CRYSTAL STRUCTURE COMMUNICATIONS	42	41	38	33	154
4	MATERIALS LETTERS	42	32	24	24	122
5	APPLIED PHYSICS LETTERS	26	21	25	25	97
6	MECHANICS RESEARCH COMMUNICATIONS	9	9	7	8	33
7	PHILOSOPHICAL MAGAZINE LETTERS	4	5	6	3	18
8	JAPANESE JOURNAL OF APPLIED PHYSICS PART 2-LETTERS	5	1	3	6	15
9	FERROELECTRICS LETTERS SECTION	1	5	2	3	11
10	INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER	1	4	2	3	10
11	PHYSICAL REVIEW LETTERS	1	1	3	5	10
12	PHYSICS LETTERS A	2	1	3	3	9
13	CHEMICAL PHYSICS LETTERS	1	1	0	6	8
14	MAKROMOLEKULARE CHEMIE-RAPID COMMUNICATIONS	2	3	2	0	7
15	EUROPHYSICS LETTERS	3	0	1	2	6
16	JOURNAL OF THE CHEMICAL SOCIETY-CHEMICAL COMMUNICATIONS	1	1	2	2	6
17	POLYMER COMMUNICATIONS	6	0	0	0	6
18	IEEE PHOTONICS TECHNOLOGY LETTERS	1	3	0	1	5
19	ELECTRONICS LETTERS	1	1	1	1	4
20	JOURNAL OF RADIOANALYTICAL AND NUCLEAR CHEMISTRY-LETTERS	1	0	3	0	4
21	NATIONAL ACADEMY SCIENCE LETTERS-INDIA	1	0	1	2	4
22	CHEMISTRY LETTERS	1	0	0	1	2
23	IEEE ELECTRON DEVICE LETTERS	1	0	1	0	2
24	OPTICS COMMUNICATIONS	0	0	0	2	2
25	ANALYTICAL LETTERS	0	1	0	0	1
26	CATALYSIS LETTERS	1	0	0	0	1
27	CHEMICAL ENGINEERING COMMUNICATIONS	0	1	0	0	1
28	MACROMOLECULAR RAPID COMMUNICATIONS	0	0	0	1	1
29	REACTION KINETICS AND CATALYSIS LETTERS	0	0	0	1	1
30	SPECTROSCOPY LETTERS	0	0	1	0	1
31	SYNTHETIC COMMUNICATIONS	0	0	1	0	1
32	TETRAHEDRON LETTERS	0	0	1	0	1
	Total	315	322	302	279	1218

Table 4: Languages used by Indian researchers as seen from *MSCI* 1991-1994

Language	Number of papers				
	1991	1992	1993	1994	Total
English	2710	2959	3204	3206	12079
Russian	-	1	-	1	2
Czech	-	1	-	-	1
French	-	-	-	1	1
German	-	-	1	-	1
Total	2710	2961	3205	3208	12084

Table 5: Sources used by Indian researchers to publish their papers as seen from *Materials Science Citation Index* 1991 - 1994 (arranged by number of papers)

Journals

Sl No.	Journal title	Publication Country	IF92	Subject	Number of papers				
					1991	1992	1993	1994	Total
1	PHYSICAL REVIEW B-CONDENSED MATTER	USA	3.259	PHYS, COND	93	109	126	130	458
2	JOURNAL OF MATERIALS SCIENCE LETTERS	UKD	0.511	MATER	80	109	109	87	385
3	JOURNAL OF APPLIED POLYMER SCIENCE	USA	0.969	POLYM SCI	78	88	103	101	370
4	BULLETIN OF MATERIALS SCIENCE	IND	0.244	MATER	155	51	50	74	330
5	SOLID STATE COMMUNICATIONS	USA	1.369	PHYS, COND	82	82	66	60	290
6	JOURNAL OF MATERIALS SCIENCE	UKD	0.798	MATER	71	77	70	55	273
7	JOURNAL OF APPLIED PHYSICS	USA	1.532	PHYS, APPL	67	59	68	68	262
8	TRANSACTIONS OF THE INDIAN INSTITUTE OF METALS	IND	0.098	METALL	65	95	42	54	256
9	PHYSICA STATUS SOLIDI B - BASIC RESEARCH	DEU	0.568	PHYS, COND	64	57	65	46	232
10	COMPUTERS & STRUCTURES	USA	0.298	COMPUTER //ENGINEER	40	57	60	66	223
11	CRYSTAL RESEARCH AND TECHNOLOGY	DEU	0.342	CRYSTAL	65	51	43	40	199
12	JOURNAL OF PHYSICS - CONDENSED MATTER	UKD	1.627	PHYS, COND	51	46	41	51	189
13	PHYSICA C	NLD	2.044	PHYS, APPL	35	50	48	54	187
14	PHYSICA STATUS SOLIDI A - APPLIED RESEARCH	DEU	0.492	PHYS, COND	54	40	32	46	172
15	THERMOCHIMICA ACTA	NLD	0.623	CHEM, ANAL	60	39	16	41	156
16	ACTA CRYSTALLOGRAPHICA SECTION C - CRYSTAL STRUCTURE COMMUNICATIONS	DNK	0.479	CRYSTAL	42	41	38	33	154
17	THIN SOLID FILMS	NLD	1.029	MATER //PHYS, COND	50	34	22	36	142
18	POLYMER	UKD	1.549	POLYM SCI	16	35	42	33	126
19	SCRIPTA METALLURGICA ET MATERIALIA	USA	1.331	MATER //MET MIN	24	29	41	31	125
20	MATERIALS LETTERS	NLD	0.695	MATER //PHYS, APPL	42	32	24	24	122
21	INDIAN JOURNAL OF PURE & APPLIED PHYSICS	IND	0.132	PHYSICS	19	6	42	46	113
22	PHYSICA B	NLD	0.939	PHYS, COND	44	17	22	30	113
23	INDIAN JOURNAL OF FIBRE & TEXTILE RESEARCH	IND	0.000	TEXTILES	0	31	38	38	107
24	WEAR	CHE	0.472	CRYSTAL //ENG, MECH //MATERIALS	25	32	32	18	107
25	POLYMER INTERNATIONAL	UKD	0.485	POLYM SCI	22	25	33	25	105
26	APPLIED PHYSICS LETTERS	USA	3.531	PHYS, APPL	26	21	25	25	97
27	MATERIALS CHEMISTRY AND PHYSICS	CHE	0.395	MATER	21	9	32	23	85
28	ANGEWANDTE MAKROMOLEKULARE CHEMIE	CHE	0.400	POLYM SCI	27	14	13	22	76
29	JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS	NLD	1.297	MATER //PHYS, COND	6	34	15	21	76
30	JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS	USA	1.255	CHEMISTRY //PHYS, COND	19	24	15	15	73
31	MATERIALS RESEARCH BULLETIN	USA	1.009	MATER	22	18	15	15	70
32	JOURNAL OF NON-CRYSTALLINE SOLIDS	NLD	1.177	CERAMICS	12	22	20	15	69
33	ENGINEERING FRACTURE MECHANICS	UKD	0.380	ENGINEER	15	21	14	18	68
34	EUROPEAN POLYMER JOURNAL	UKD	0.834	POLYM SCI	15	20	17	16	68
35	JOURNAL OF ELECTROANALYTICAL CHEMISTRY	NLD	2.202	CHEM, ANAL //ELECTROCHEM	17	16	14	21	68
36	ANALYST	UKD	1.588	CHEM, ANAL	21	11	17	18	67
37	JOURNAL OF SOLID STATE CHEMISTRY	USA	1.575	CHEM, INOR	10	12	19	26	67
38	JOURNAL OF THERMAL ANALYSIS	HUN	0.382	CHEM, ANAL //MATERIALS	26	17	18	6	67
39	MATERIALS SCIENCE AND ENGINEERING B - SOLID STATE MATERIALS FOR ADVANCED TECHNOLOGY	CHE	0.620	MATER //PHYS, COND	13	22	12	19	66

Table 5 contd.

40	NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS	NLD	1.152	PHYS, NUCL	15	15	27	9	66
41	MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING	CHE	0.801	MATER	16	23	10	16	65
42	JOURNAL OF ALLOYS AND COMPOUNDS	CHE	0.667	CHEM, PHYS //MATERIALS //MET MIN	1	18	23	22	64
43	JOURNAL OF MATERIALS PROCESSING TECHNOLOGY	NLD	0.192	ENG, MECH	9	8	24	23	64
44	JOURNAL OF APPLIED ELECTROCHEMISTRY	UKD	0.927	ELE CHEM	12	19	15	17	63
45	JOURNAL OF MACROMOLECULAR SCIENCE-PURE AND APPLIED CHEMISTRY	USA	0.678	POLYM SCI	0	14	19	30	63
46	SOLID-STATE ELECTRONICS	UKD	0.846	ENG, ELEC	16	18	17	12	63
47	JAPANESE JOURNAL OF APPLIED PHYSICS PART 1-REGULAR PAPERS & SHORT NOTES	JPN	1.363	PHYS, APPL	2	19	20	21	62
48	JOURNAL OF CRYSTAL GROWTH	NLD	1.592	CRYSTAL	12	14	17	19	62
49	JOURNAL OF NUCLEAR MATERIALS	NLD	1.561	MET MIN //NUCL SCI	13	12	21	13	59
50	MOLECULAR CRYSTALS AND LIQUID CRYSTALS	UKD	0.883	CRYSTAL	7	31	6	15	59
51	METALLURGICAL TRANSACTIONS A - PHYSICAL METALLURGY AND MATERIALS SCIENCE	USA	1.363	MATER //MET MIN	14	21	18	2	55
52	SEMICONDUCTOR SCIENCE AND TECHNOLOGY	UKD	1.406	ENG, ELEC //MATERIALS //PHYS, COND	14	14	12	14	54
53	JOURNAL OF POLYMER SCIENCE PART A - POLYMER CHEMISTRY	USA	1.327	POLYM SCI	8	15	16	13	52
54	FRESENIUS JOURNAL OF ANALYTICAL CHEMISTRY	DEU	1.213	CHEM, ANAL	6	10	14	20	50
55	INDIAN JOURNAL OF CHEMISTRY SECTION A - INORGANIC BIO-INORGANIC PHYSICAL THEORETICAL & ANALYTICAL CHEMISTRY	IND	0.357	CHEMISTRY	0	22	11	17	50
56	MACROMOLECULES	USA	2.851	POLYM SCI	9	12	16	13	50
57	SUPERCONDUCTOR SCIENCE & TECHNOLOGY	UKD	1.248	PHYS, APPL //PHYS, COND	8	11	18	13	50
58	RADIATION PHYSICS AND CHEMISTRY	USA	0.477	PHYS, NUCL	15	12	3	19	49
59	JOURNAL OF MATERIALS RESEARCH	USA	2.623	MATER	7	8	13	20	48
60	ACTA METALLURGICA ET MATERIALIA	USA	1.971	MATER //MET MIN	18	12	8	9	47
61	ZEITSCHRIFT FUR KRISTALLOGRAPHIE	DEU	0.401	CRYSTAL	7	15	10	15	47
62	ACTA MECHANICA	AUT	0.411	MECHANICS	12	9	13	9	43
63	POLYMER-PLASTICS TECHNOLOGY AND ENGINEERING	USA	1.549	POLYM SCI	9	10	12	11	42
64	PRAMANA-JOURNAL OF PHYSICS	IND	0.390	PHYSICS	8	6	10	18	42
65	JOURNAL OF STRUCTURAL ENGINEERING-ASCE	USA	0.479	CONSTR //ENG, CIVIL	5	19	5	12	41
66	MATERIALS TRANSACTIONS JIM	JPN	0.876	MATER //MET MIN	12	11	11	7	41
67	SOLID STATE IONICS	NLD	1.093	CHEM, PHYS //PHYS, COND	6	7	14	14	41
68	JOURNAL OF COLLOID AND INTERFACE SCIENCE	USA	1.420	CHEM, PHYS	3	7	19	11	40
69	SOLAR ENERGY MATERIALS AND SOLAR CELLS	NLD	0.381	ENERGY //MATERIALS	0	12	14	14	40
70	TRANSACTIONS OF THE METAL FINISHERS ASSOCIATION OF INDIA	IND	0.000	MET MIN	0	0	18	21	39
71	ZEITSCHRIFT FUR METALLKUNDE	DEU	0.687	MET MIN	11	11	10	7	39
72	SYNTHETIC METALS	CHE	1.068	MET MIN //PHYS, COND	6	4	22	6	38
73	VACUUM	UKD	0.700	PHYS, APPL	13	9	10	6	38
74	INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER	UKD	0.565	ENG, MECH //MECHANICS	6	10	18	3	37
75	JOURNAL OF PHYSICS D - APPLIED PHYSICS	UKD	0.975	PHYS, APPL	6	4	13	14	37
76	INTERNATIONAL JOURNAL OF FRACTURE	NLD	0.642	MECHANICS	10	10	11	5	36
77	ISIJ INTERNATIONAL	UKD	0.585	MET MIN	6	5	11	14	36
78	INFRARED PHYSICS	USA	0.632	OPTICS	9	12	10	4	35

Table 5 contd.

79	RADIATION EFFECTS AND DEFECTS IN SOLIDS	UKD	0.239	NUCL SCI //PHYS, COND	12	9	0	14	35
80	STEEL RESEARCH	DEU	0.443	MET MIN	6	8	7	13	34
81	COMPOSITE STRUCTURES	UKD	0.622	ENG, CIVIL	4	12	11	6	33
82	JOURNAL OF MATERIALS CHEMISTRY	UKD	1.563	CHEM, PHYS //MATERIALS	6	8	11	8	33
83	JOURNAL OF THE AMERICAN CERAMIC SOCIETY	USA	1.688	CERAMICS	8	10	7	8	33
84	LIQUID CRYSTALS	UKD	1.432	CRYSTAL	7	6	16	4	33
85	MECHANICS RESEARCH COMMUNICATIONS	UKD	0.241	MECHANICS	9	9	7	8	33
86	BULLETIN OF ELECTROCHEMISTRY	IND	0.000	CHEMISTRY	0	0	22	10	32
87	JOURNAL OF THE INDIAN CHEMICAL SOCIETY	IND	0.085	CHEMISTRY	4	5	14	9	32
88	KAUTSCHUK & GUMMI KUNSTSTOFFE	DEU	0.414	RUBBER	11	7	9	5	32
89	JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS	UKD	0.453	ENG, MECH	12	8	6	5	31
90	PHILOSOPHICAL MAGAZINE B - PHYSICS OF CONDENSED MATTER: STRUCTURAL, ELECTRONIC, OPTICAL AND MAGNETIC PROPERTIES	UKD	1.350	PHYS, APPL	13	7	6	5	31
91	TEXTILE RESEARCH JOURNAL	USA	0.373	MATER	17	6	7	0	30
92	APPLIED SURFACE SCIENCE	NLD	1.146	CHEM, PHYS //PHYS, COND	7	6	7	9	29
93	AIAA JOURNAL	USA	0.553	AEROSPACE	4	7	11	6	28
94	HYPERFINE INTERACTIONS	NLD	0.499	PHYS, ATOM //PHYS, COND //PHYS, NUCL	2	13	1	12	28
95	INDIAN JOURNAL OF TECHNOLOGY	IND	0.142	ENGINEER	6	9	13	0	28
96	JOURNAL OF REINFORCED PLASTICS AND COMPOSITES	USA	0.357	ENG, MECH	6	9	11	2	28
97	METALLURGICAL TRANSACTIONS B-PROCESS METALLURGY	USA	0.928	MET MIN	8	10	9	1	28
98	PLASTICS RUBBER AND COMPOSITES PROCESSING AND APPLICATIONS	UKD	0.214	PLASTICS	4	7	11	6	28
99	POLYMER ENGINEERING AND SCIENCE	USA	0.944	ENGINEER //POLYM SCI	5	7	8	8	28
100	CERAMICS INTERNATIONAL	UKD	0.500	CERAMICS	4	7	9	7	27
101	HYDROMETALLURGY	NLD	0.811	MET MIN	3	6	11	7	27
102	IRONMAKING & STEELMAKING	UKD	0.570	MET MIN	0	14	3	10	27
103	MATERIALS SCIENCE AND TECHNOLOGY	UKD	0.819	MATER //MET MIN	5	5	8	9	27
104	REACTIVE POLYMERS	NLD	0.757	POLYM SCI	1	11	11	4	27
105	INTERNATIONAL JOURNAL OF MINERAL PROCESSING	NLD	0.360	ENG, CHEM //MET MIN //MINERALOGY	8	9	7	2	26
106	INTERNATIONAL JOURNAL OF NON-LINEAR MECHANICS	UKD	0.515	MECHANICS	9	8	6	3	26
107	RESEARCH AND INDUSTRY	IND	0.042	MULTIDIS	7	7	5	7	26
108	SURFACE & COATINGS TECHNOLOGY	CHE	0.933	MATER	7	10	3	6	26
109	TRIBOLOGY INTERNATIONAL	UKD	0.327	ENG, MECH	5	6	10	4	25
110	ACTA POLYMERICA	DEU	0.229	POLYM SCI	15	9	0	0	24
111	BIOPOLYMERS	USA	2.221	BIOCH, MOL	1	8	8	7	24
112	IEEE TRANSACTIONS ON PLASMA SCIENCE	USA	1.317	PHYS, FLUI	5	2	9	8	24
113	CORROSION	USA	0.593	MET MIN	2	7	12	2	23
114	LUMINESCENSE : PHENOMENA	UKD	0.000	LUMIN	0	0	23	0	23
115	POLYMER DEGRADATION AND STABILITY	UKD	0.637	POLYM SCI	2	9	6	6	23
116	CEMENT AND CONCRETE RESEARCH	UKD	0.404	CONSTR //MATERIALS	4	5	6	7	22
117	COLLOIDS AND SURFACES	NLD	0.973	CHEM, PHYS	13	8	1	0	22
118	JOURNAL OF ELASTOMERS AND PLASTICS	USA	0.132	PLASTICS	4	4	7	7	22
119	PHYSICS AND CHEMISTRY OF GLASSES	UKD	1.105	CHEM, PHYS //CERAMICS	5	11	3	3	22
120	CURRENT SCIENCE	IND	0.253	MULTIDIS	6	7	2	6	21
121	FERROELECTRICS	UKD	0.773	PHYS, COND	8	8	5	0	21
122	INTERNATIONAL JOURNAL OF POLYMERIC MATERIALS	UKD	0.169	ENG, CHEM //POLYM SCI	6	6	4	5	21
123	CELLULOSE CHEMISTRY AND TECHNOLOGY	ROM	0.089	MATER, PAP	2	5	7	6	20
124	COLLOID AND POLYMER SCIENCE	DEU	0.912	POLYM SCI	7	1	7	5	20

Table 5 contd.

125	JOURNAL OF ENGINEERING MECHANICS - ASCE	USA	0.520	ENG, MECH	6	3	4	7	20
126	POWDER TECHNOLOGY	CHE	0.556	ENG, CHEM	9	4	4	3	20
127	CORROSION SCIENCE	UKD	0.777	MET MIN	3	5	7	4	19
128	LANGMUIR	USA	2.638	CHEM, PHYS	1	7	4	7	19
129	PHASE TRANSITIONS	USA	0.564	CRYSTAL //PHYS, COND	5	12	2	0	19
130	PHILOSOPHICAL MAGAZINE LETTERS	UKD	1.786	PHYS, COND	4	5	6	3	18
131	POLYMER TESTING	UKD	0.317	MATER //POLYM SCI	4	5	3	6	18
132	SCANDINAVIAN JOURNAL OF METALLURGY	SWE	0.286	MET MIN	4	4	7	3	18
133	APPLIED PHYSICS A-SOLIDS AND SURFACES	USA	1.481	PHYS, APPL	3	6	6	2	17
134	INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING	UKD	1.006	ENGINEER //MATHS, APP	1	6	5	5	17
135	JOURNAL OF APPLIED MECHANICS-TRANSACTIONS OF THE ASME	USA	0.686	MECHANICS	3	6	4	4	17
136	JOURNAL OF SUPERCONDUCTIVITY	USA	1.489	MECHANICS	1	3	8	5	17
137	COLLOIDS AND SURFACES A-PHYSICOCHEMICAL AND ENGINEERING ASPECTS	NLD	0.000	CHEM, PHYS	0	0	6	10	16
138	ELECTROCHIMICA ACTA	UKD	1.351	ELE CHEM	7	4	2	3	16
139	INTERNATIONAL JOURNAL OF INFRARED AND MILLIMETER WAVES	USA	0.636	ENG, ELEC //OPTICS //PHYS, APPL	4	2	7	3	16
140	INTERNATIONAL JOURNAL OF MECHANICAL SCIENCES	UKD	0.340	ENG, MECH //MECHANICS	4	3	6	3	16
141	JOURNAL OF SOUND AND VIBRATION	USA	0.751	ACOUSTICS	1	6	1	8	16
142	METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE	USA	0.000	METALL	0	0	0	16	16
143	POLYMER BULLETIN	USA	1.128	POLYM SCI	6	4	5	1	16
144	RUBBER CHEMISTRY AND TECHNOLOGY	USA	0.735	POLYM SCI	1	6	5	4	16
145	SURFACE SCIENCE	NLD	2.668	CHEM, PHYS	6	2	3	5	16
146	ZEITSCHRIFT FUR PHYSIK B - CONDENSED MATTER	DEU	2.243	PHYS, COND	5	4	5	2	16
147	INTERNATIONAL JOURNAL OF FATIGUE	UKD	0.220	ENG, MECH //MATERIALS	3	4	5	3	15
148	INTERNATIONAL JOURNAL OF HYDROGEN ENERGY	UKD	0.797	ENERGY //ENV SCI //PHYS, ATOM	4	4	5	2	15
149	JAPANESE JOURNAL OF APPLIED PHYSICS PART 2- LETTERS	JPN	1.363	PHYS, APPL	5	1	3	6	15
150	JOURNAL OF MACROMOLECULAR SCIENCE - REVIEWS IN MACROMOLECULAR CHEMISTRY AND PHYSICS	USA	1.400	POLYM SCI	6	3	4	2	15
151	JOURNAL OF PHYSICAL CHEMISTRY	USA	3.452	CHEM, PHYS	2	3	2	8	15
152	JOURNAL OF THE ELECTROCHEMICAL SOCIETY	USA	1.625	ELE CHEM	3	2	2	8	15
153	JOURNAL OF VACUUM SCIENCE & TECHNOLOGY A - VACUUM SURFACES AND FILMS	USA	2.154	PHYS, APPL	7	3	4	1	15
154	POWDER METALLURGY INTERNATIONAL	DEU	0.250	MET MIN	6	5	4	0	15
155	SOLAR ENERGY	USA	0.369	ENERGY	9	4	1	1	15
156	TRIBOLOGY TRANSACTIONS	USA	0.534	ENG, MECH	3	5	4	3	15
157	ACI MATERIALS JOURNAL	USA	0.399	CONSTR //MATERIALS	7	5	2	0	14
158	ACTA CRYSTALLOGRAPHICA SECTION B - STRUCTURAL SCIENCE	DNK	1.802	CRYSTAL	4	4	5	1	14
159	APPLIED PHYSICS B - LASERS AND OPTICS	USA	1.514	PHYS, APPL	4	1	7	2	14
160	APPLIED SUPERCONDUCTIVITY	UKD	0.000	ENG, ELEC	0	0	11	3	14
161	BRITISH JOURNAL OF NON-DESTRUCTIVE TESTING	UKD	0.087	METALL	6	3	4	1	14
162	FUSION TECHNOLOGY	USA	1.800	NUCL SCI	6	2	5	1	14
163	INTERNATIONAL JOURNAL OF ENGINEERING SCIENCE	UKD	0.555	ENGINEER	2	5	3	4	14
164	JOURNAL OF CHEMICAL PHYSICS	USA	3.433	PHYS, ATOM	2	0	6	6	14
165	JOURNAL OF SCIENTIFIC & INDUSTRIAL RESEARCH	IND	0.062	MULTIDIS	2	7	2	3	14
166	PLATING AND SURFACE FINISHING	USA	0.153	MET MIN	3	4	5	2	14
167	WELDING JOURNAL	USA	0.111	MET MIN	3	3	5	3	14
168	ACTA CRYSTALLOGRAPHICA SECTION A - FOUNDATIONS OF CRYSTALLOGRAPHY	DNK	2.409	CRYSTAL	7	4	2	0	13

Table 5 contd.

169	ELECTROANALYSIS	USA	1.350	CHEM, ANAL	3	3	2	5	13
170	IEEE TRANSACTIONS ON MAGNETICS	USA	0.837	ENG, ELEC //PHYS, APPL	2	4	0	7	13
171	INDIAN JOURNAL OF CHEMICAL TECHNOLOGY	IND	0.000	ENG, TECH	0	0	0	13	13
172	INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES	UKD	0.960	CONSTR //ENG, CIVIL	2	2	6	3	13
173	JOURNAL OF ADHESION SCIENCE AND TECHNOLOGY	NLD	0.922	ENGINEER //MATERIALS //MECHANICS	4	5	2	2	13
174	JOURNAL OF APPLIED CRYSTALLOGRAPHY	DNK	1.513	CRYSTAL	5	2	5	1	13
175	JOURNAL OF MACROMOLECULAR SCIENCE-PHYSICS	USA	0.784	POLYM SCI	1	6	4	2	13
176	POLYMER JOURNAL	JPN	1.066	POLYM SCI	0	4	3	6	13
177	SOLAR ENERGY MATERIALS	NLD	0.381	ENERGY	9	4	0	0	13
178	ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY	USA	0.000	CHEMISTRY	1	5	1	5	12
179	BIOMATERIALS	UKD	1.280	ENG, BIOM	4	3	2	3	12
180	FATIGUE & FRACTURE OF ENGINEERING MATERIALS & STRUCTURES	USA	0.000	ENGINEER	0	5	4	3	12
181	IEEE JOURNAL OF QUANTUM ELECTRONICS	USA	2.442	ENG, ELEC //PHYS, APPL	5	1	4	2	12
182	INTERNATIONAL JOURNAL OF MODERN PHYSICS B	SGP	0.000	PHYSICS	0	3	4	5	12
183	INTERNATIONAL JOURNAL OF THERMOPHYSICS	UKD	0.901	CHEM, PHYS //PHYS, APPL	5	6	0	1	12
184	JOURNAL OF MATERIALS ENGINEERING AND PERFORMANCE	USA	0.000	MATER	0	4	7	1	12
185	JOURNAL OF POLYMER SCIENCE PART B-POLYMER PHYSICS	USA	1.526	POLYM SCI	2	4	3	3	12
186	JOURNAL OF THE TEXTILE INSTITUTE	UKD	0.257	MATER	1	4	5	2	12
187	MINERALS ENGINEERING	USA	0.351	MET MIN	4	4	3	1	12
188	NUMERICAL HEAT TRANSFER PART A-APPLICATIONS	USA	0.406	MECHANICS	2	3	3	4	12
189	PROCEEDINGS OF THE INDIAN ACADEMY OF SCIENCES-CHEMICAL SCIENCES	IND	0.387	CHEMISTRY	1	4	1	6	12
190	COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING	NLD	0.868	COMPUTER //MECHANICS	0	5	3	3	11
191	CONSTRUCTION AND BUILDING MATERIALS	UKD	0.000	ENG, CIVIL	0	4	3	4	11
192	CRYOGENICS	UKD	0.790	PHYS, APPL	3	4	3	1	11
193	FERROELECTRICS LETTERS SECTION	UKD	0.678	PHYS, COND	1	5	2	3	11
194	IEEE TRANSACTIONS ON ELECTRON DEVICES	USA	1.719	ENG, ELEC //PHYS, APPL	1	0	3	7	11
195	INTERNATIONAL JOURNAL OF HEAT AND FLUID FLOW	USA	0.260	PHYSICS	3	2	2	4	11
196	JOURNAL OF POWER SOURCES	CHE	0.569	ELE CHEM	1	1	2	7	11
197	JOURNAL OF TESTING AND EVALUATION	USA	0.283	MATER	2	4	2	3	11
198	MAKROMOLEKULARE CHEMIE-MACROMOLECULAR CHEMISTRY AND PHYSICS	CHE	0.817	POLYM SCI	6	4	1	0	11
199	OXIDATION OF METALS	USA	0.760	MET MIN	2	2	4	3	11
200	PHILOSOPHICAL MAGAZINE A - PHYSICS OF CONDENSED MATTER DEFECTS AND MECHANICAL PROPERTIES	UKD	1.427	PHYS, APPL	4	3	0	4	11
201	ACI STRUCTURAL JOURNAL	USA	0.346	CONSTR //MATERIALS	4	4	1	1	10
202	APPLIED CATALYSIS	NLD	1.531	CHEM, PHYS	10	0	0	0	10
203	BRITISH CORROSION JOURNAL	UKD	0.000	METALL	0	0	5	5	10
204	CHEMISTRY OF MATERIALS	USA	2.811	CHEM, PHYS	0	1	4	5	10
205	INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER	USA	0.167	ENG, MECH	1	4	2	3	10
206	INTERNATIONAL JOURNAL OF ROCK MECHANICS AND MINING SCIENCES & GEOMECHANICS ABSTRACTS	UKD	0.434	GEOLOGY //MET MIN	1	0	0	9	10
207	JOURNAL DE PHYSIQUE II	FRA	0.000	MECHANICS //PHYSICS //PHYS, ATOM	4	3	3	0	10
208	JOURNAL OF ADHESION	UKD	0.471	ENGINEER	2	3	3	2	10
209	JOURNAL OF BIOMATERIALS APPLICATIONS	USA	0.000	PLASTICS	0	5	4	1	10

Table 5 contd.

210	MINERALOGICAL MAGAZINE	UKD	0.703	MINERALOGY	3	1	3	3	10
211	PHYSICAL REVIEW LETTERS	USA	7.375	PHYSICS	1	1	3	5	10
212	ARCHIVE OF APPLIED MECHANICS-INGENIEUR ARCHIV	DEU	0.094	ENGINEER	1	4	3	1	9
213	BRITISH CERAMIC TRANSACTIONS AND JOURNAL	UKD	0.368	CERAMICS	0	8	1	0	9
214	CARBON	USA	1.402	CHEM, PHYS //MATERIALS	3	2	1	3	9
215	COMPOSITES SCIENCE AND TECHNOLOGY	UKD	1.108	MATER	2	4	1	2	9
216	EUROPEAN JOURNAL OF SOLID STATE AND INORGANIC CHEMISTRY	FRA	1.129	CHEM, INOR	5	3	0	1	9
217	INTERNATIONAL JOURNAL OF ELECTRONICS	UKD	0.305	ENG, ELEC	5	1	1	2	9
218	INTERNATIONAL JOURNAL OF POWDER METALLURGY	USA	0.426	MET MIN	5	2	2	0	9
219	INTERNATIONAL JOURNAL OF PRESSURE VESSELS AND PIPING	UKD	0.000	ENG, MECH	0	2	4	3	9
220	JOCCA-SURFACE COATINGS INTERNATIONAL	UKD	0.078	CHEM, APPL	2	2	2	3	9
221	JOURNAL DE PHYSIQUE I	FRA	1.818	PHYSICS	4	3	0	2	9
222	JOURNAL OF HAZARDOUS MATERIALS	NLD	0.511	MATER	2	3	2	2	9
223	JOURNAL OF VACUUM SCIENCE & TECHNOLOGY B	USA	2.270	PHYS, APPL	1	6	2	0	9
224	MATERIALS FORUM	AUS	0.000	METALL	0	4	2	3	9
225	PHYSICS LETTERS A	NLD	1.135	PHYSICS	2	1	3	3	9
226	BIOHYDROMETALLURGICAL TECHNOLOGIES	CHL	0.000	METALL	0	0	0	8	8
227	BIOMATERIALS ARTIFICIAL CELLS AND IMMOBILIZATION BIOTECHNOLOGY	USA	0.387	ENG, BIOM	3	1	4	0	8
228	CHEMICAL PHYSICS LETTERS	NLD	2.686	PHYS, ATOM	1	1	0	6	8
229	COMPOSITES	UKD	0.781	MATER	4	2	1	1	8
230	CONTRIBUTIONS TO MINERALOGY AND PETROLOGY	DEU	2.427	GEOLOGY //MINERALOGY	3	2	1	2	8
231	INFRARED PHYSICS & TECHNOLOGY	USA	0.000	PHYSICS	0	0	0	8	8
232	JOURNAL OF POLYMER ENGINEERING	ISR	0.000	ENG, CHEM	1	0	2	5	8
233	JOURNAL OF RAMAN SPECTROSCOPY	NLD	1.043	SPECTROSCO	2	1	3	2	8
234	JOURNAL OF THE SOCIETY OF LEATHER TECHNOLOGISTS AND CHEMISTS	UKD	0.288	LEATHER	4	0	2	2	8
235	METALLURGICAL AND MATERIALS TRANSACTIONS B-PROCESS METALLURGY AND MATERIALS PROCESSING SCIENCE	USA	0.000	METALL	0	0	0	8	8
236	NANOSTRUCTURED MATERIALS	UKD	0.000	ENG, MECH	0	1	2	5	8
237	SYNTHESIS AND REACTIVITY IN INORGANIC AND METAL-ORGANIC CHEMISTRY	USA	0.449	CHEM, INOR	0	0	2	6	8
238	BRITISH CERAMIC TRANSACTIONS	UKD	0.000	CERAMICS	0	0	2	5	7
239	CANADIAN JOURNAL OF APPLIED SPECTROSCOPY	CAN	0.553	SPECTROSCO	3	3	0	1	7
240	CANADIAN JOURNAL OF PHYSICS	CAN	0.461	PHYSICS	3	1	1	2	7
241	CANADIAN METALLURGICAL QUARTERLY	CAN	0.514	MET MIN	0	1	4	2	7
242	CHEMICAL PHYSICS	NLD	1.963	PHYS, ATOM	0	1	0	6	7
243	DRYING TECHNOLOGY	USA	0.250	CHEM, PHYS	1	1	5	0	7
244	HIGH TEMPERATURE MATERIALS AND PROCESSES	UKD	0.000	ENG, MECH	0	0	6	1	7
245	INDIAN JOURNAL OF ENGINEERING AND MATERIALS SCIENCES	IND	0.000	MATER	0	0	0	7	7
246	INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH	USA	0.965	ENG, CHEM	2	0	2	3	7
247	INTERNATIONAL JOURNAL OF ADHESION AND ADHESIVES	UKD	0.366	PLASTICS	1	1	4	1	7
248	JOURNAL OF ENGINEERING MATERIALS AND TECHNOLOGY-TRANSACTIONS OF THE ASME	USA	0.350	MATER	2	1	1	3	7
249	JOURNAL OF LOW TEMPERATURE PHYSICS	USA	1.297	PHYS, APPL	2	3	2	0	7
250	JOURNAL OF THE EUROPEAN CERAMIC SOCIETY	UKD	0.000	CERAMICS	0	0	6	1	7
251	JOURNAL OF THE SOCIETY OF DYERS AND COLOURISTS	UKD	0.512	CHEM, APPL	2	1	3	1	7
252	MAKROMOLEKULARE CHEMIE-RAPID COMMUNICATIONS	CHE	1.785	POLYM SCI	2	3	2	0	7
253	MATERIALS AND MANUFACTURING PROCESSES	USA	0.000	ENG, MECH	0	1	4	2	7
254	MATERIALS EVALUATION	USA	0.090	ENG, MECH	1	4	1	1	7
255	MATERIALS PERFORMANCE	USA	0.106	ENG, MECH	1	2	3	1	7

Table 5 contd.

256	MINERALOGY AND PETROLOGY	AUT	0.697	GEOLOGY //MINERALOGY	2	2	1	2	7
257	POLYMERS FOR ADVANCED TECHNOLOGIES	UKD	0.000	PLASTICS	0	1	3	3	7
258	PROGRESS IN CRYSTAL GROWTH AND CHARACTERIZATION OF MATERIALS	UKD	0.390	CRYSTAL	3	2	1	1	7
259	RUBBER PRODUCTS MANUFACTURING TECHNOLOGY	UKD	0.000	RUBBER	0	0	0	7	7
260	APPLIED SPECTROSCOPY	USA	0.000	OPTICS	0	0	1	5	6
261	ARTIFICIAL ORGANS	USA	1.059	ENG, BIOM	2	1	1	2	6
262	BULLETIN OF THE CHEMICAL SOCIETY OF JAPAN	JPN	0.876	CHEMISTRY	1	1	0	4	6
263	CHEMICAL ENGINEERING SCIENCE	USA	0.990	ENG, CHEM	0	1	2	3	6
264	EUROPHYSICS LETTERS	FRA	2.463	PHYSICS	3	0	1	2	6
265	INDIAN JOURNAL OF PURE & APPLIED MATHEMATICS	IND	0.060	MATHEMAT	1	2	1	2	6
266	INTERNATIONAL JOURNAL OF ARTIFICIAL ORGANS	ITA	0.868	ENG, BIOM	1	1	3	1	6
267	INTERNATIONAL JOURNAL OF RAPID SOLIDIFICATION	UKD	0.621	MATER //MET MIN	1	2	3	0	6
268	JOURNAL OF CATALYSIS	USA	2.302	CHEM, PHYS //ENG, CHEM	0	2	2	2	6
269	JOURNAL OF ELECTRONIC MATERIALS	USA	1.264	ENG, ELEC	1	1	1	3	6
270	JOURNAL OF THE CHEMICAL SOCIETY-CHEMICAL COMMUNICATIONS	UKD	2.511	CHEMISTRY	1	1	2	2	6
271	JOURNAL OF THE CHEMICAL SOCIETY-FARADAY TRANSACTIONS	UKD	1.700	CHEM, PHYS //PHYS, ATOM	0	1	3	2	6
272	JOURNAL OF THE PHYSICAL SOCIETY OF JAPAN	JPN	0.160	PHYSICS	0	1	2	3	6
273	MATERIALS CHARACTERIZATION	USA	0.318	MATER //MET MIN	1	2	1	2	6
274	NDT & E INTERNATIONAL	UKD	0.000	ENGINEER //MATERIALS	0	0	0	6	6
275	POLYMER COMMUNICATIONS	UKD	1.078	POLYM SCI	6	0	0	0	6
276	PROGRESS IN ORGANIC COATINGS	CHE	0.632	CHEM, APPL	1	2	2	1	6
277	SPECTROCHIMICA ACTA PART A-MOLECULAR SPECTROSCOPY	UKD	0.806	SPECTROSCO	0	3	3	0	6
278	TALANTA	UKD	1.236	CHEM, ANAL	1	1	3	1	6
279	ZEMENT-KALK-GIPS	DEU	0.260	ENG, CIVIL	2	2	1	1	6
280	ADVANCED COMPOSITE MATERIALS	NLD	0.000	ENGINEER //MATERIALS //MECHANICS	0	4	1	0	5
281	ASIAN JOURNAL OF CHEMISTRY	IND	0.000	CHEMISTRY	0	0	2	3	5
282	EXPERIMENTAL MECHANICS	USA	0.308	MECHANICS	2	1	2	0	5
283	IEEE PHOTONICS TECHNOLOGY LETTERS	USA	1.789	OPTICS //PHYS, APPL	1	3	0	1	5
284	INTERNATIONAL JOURNAL FOR NUMERICAL AND ANALYTICAL METHODS IN GEOMECHANICS	UKD	0.288	ENG, CIVIL //GEOSCI	1	1	2	1	5
285	JOM-JOURNAL OF THE MINERALS METALS & MATERIALS SOCIETY	USA	0.688	MATER //MET MIN //MINERALOGY	1	2	1	1	5
286	JOURNAL OF BIOMEDICAL MATERIALS RESEARCH	USA	1.926	ENG, BIOM //MATERIALS	3	2	0	0	5
287	JOURNAL OF COMPOSITE MATERIALS	USA	0.875	MATER	1	2	2	0	5
288	JOURNAL OF MACROMOLECULAR SCIENCE - CHEMISTRY	USA	0.000	POLYM SCI	5	0	0	0	5
289	JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B - OPTICAL PHYSICS	USA	2.276	OPTICS	1	0	2	2	5
290	JOURNAL OF THERMOPHYSICS AND HEAT TRANSFER	USA	0.000	PHYSICS	0	1	1	3	5
291	JOURNAL OF TRIBOLOGY-TRANSACTIONS OF THE ASME	USA	0.440	ENG, MECH	1	1	1	2	5
292	MICROELECTRONICS AND RELIABILITY	UKD	0.157	ENG, ELEC	2	0	1	2	5
293	OPTICAL ENGINEERING	USA	0.765	OPTICS	0	0	4	1	5
294	PHYSICA SCRIPTA	SWE	0.878	ONCOLOGY //PHYSICS	2	0	0	3	5
295	PROGRESS IN POLYMER SCIENCE	USA	2.000	POLYM SCI	0	1	3	1	5
296	SENSORS AND ACTUATORS B-CHEMICAL	CHE	1.852	ENG, ELEC //INSTRUM	0	1	0	4	5
297	TAPPI JOURNAL	USA	0.286	MATER, PAP	1	2	0	2	5
298	TEXTURES AND MICROSTRUCTURES	NLD	0.126	GEOLOGY	1	4	0	0	5
299	ACTA PHYSICA POLONICA A	POL	0.222	PHYSICS	0	1	1	2	4
300	ACUSTICA	DEU	0.327	ACOUSTICS	0	3	0	1	4
301	AMERICAN CERAMIC SOCIETY BULLETIN	USA	0.507	CERAMICS	0	2	1	1	4

Table 5 contd.

302	ASIAN JOURNAL OF CHEMISTRY REVIEWS	IND	0.000	CHEMISTRY	0	0	3	1	4
303	COMPOSITES ENGINEERING	UKD	0.000	ENGINEER	0	0	3	1	4
304	CORROSION PREVENTION & CONTROL	UKD	0.000	METALL	0	0	0	4	4
305	CZECHOSLOVAK JOURNAL OF PHYSICS	CSK	0.309	PHYSICS	3	0	0	1	4
306	ELECTRONICS LETTERS	UKD	1.059	ENG, ELEC	1	1	1	1	4
307	EXPERIMENTAL THERMAL AND FLUID SCIENCE	USA	0.281	ENGINEER	3	0	0	1	4
308	FIBER AND INTEGRATED OPTICS	USA	0.113	OPTICS	1	2	0	1	4
309	GLASS TECHNOLOGY	UKD	0.253	CERAMICS	1	1	1	1	4
310	HEAT TRANSFER ENGINEERING	USA	0.000	ENG, CHEM	2	1	0	1	4
311	HIGH TEMPERATURE SCIENCE	USA	1.372	CHEM, PHYS	3	1	0	0	4
312	INTERNATIONAL JOURNAL OF IMPACT ENGINEERING	USA	0.000	ENGINEER	0	3	0	1	4
313	JOURNAL DE PHYSIQUE	FRA	0.000	PHYSICS	1	3	0	0	4
314	JOURNAL DE PHYSIQUE III	FRA	0.000	MATER //PHYSICS //PHYS, APPL //PHYS, FLUI	0	0	1	3	4
315	JOURNAL OF ANALYTICAL AND APPLIED PYROLYSIS	NLD	0.900	CHEM, ANAL //SPECTROSCO	0	0	1	3	4
316	JOURNAL OF BIOMECHANICS	UKD	1.020	BIOPHYS //ENG, BIOM	1	1	1	1	4
317	JOURNAL OF COATINGS TECHNOLOGY	USA	0.560	CHEM, APPL	0	3	1	0	4
318	JOURNAL OF COMPOSITES TECHNOLOGY & RESEARCH	USA	0.540	ENG, MECH	1	0	2	1	4
319	JOURNAL OF ELECTRON SPECTROSCOPY AND RELATED PHENOMENA	NLD	1.796	SPECTROSCO	0	2	0	2	4
320	JOURNAL OF LOSS PREVENTION IN THE PROCESS INDUSTRIES	UKD	0.314	ENG, CHEM	1	2	1	0	4
321	JOURNAL OF MATERIALS SCIENCE-MATERIALS IN MEDICINE	UKD	0.843	ENG, MECH	2	0	1	1	4
322	JOURNAL OF RADIOANALYTICAL AND NUCLEAR CHEMISTRY-LETTERS	HUN	0.425	CHEM, ANAL //CHEM, INOR //NUCL SCI	1	0	3	0	4
323	JOURNAL OF THE AMERICAN LEATHER CHEMISTS ASSOCIATION	USA	0.197	LEATHER	4	0	0	0	4
324	JOURNAL OF THE LESS-COMMON METALS	CHE	1.063	CHEM, PHYS //MET MIN	4	0	0	0	4
325	JOURNAL OF THERMAL STRESSES	USA	0.196	ENG, MECH	1	1	1	1	4
326	JOURNAL OF VINYL TECHNOLOGY	USA	0.000	PLASTICS	0	4	0	0	4
327	LUBRICATION ENGINEERING	USA	0.321	ENG, MECH	1	1	2	0	4
328	MATERIALS AT HIGH TEMPERATURES	UKD	0.000	ENG, MECH	0	3	0	1	4
329	MICROPOROUS MATERIALS	NLD	0.000	MATER	0	0	0	4	4
330	NATIONAL ACADEMY SCIENCE LETTERS-INDIA	IND	0.030	MULTIDIS	1	0	1	2	4
331	PHYSICAL REVIEW E	USA	0.000	PHYS, NUCL	0	0	1	3	4
332	POLYHEDRON	UKD	1.127	CHEM, INOR	0	0	3	1	4
333	POLYMER COMPOSITES	USA	1.019	MATER //POLYM SCI	0	2	0	2	4
334	QUARTERLY JOURNAL OF MECHANICS AND APPLIED MATHEMATICS	UKD	0.567	MATHS, APP //MECHANICS	0	1	2	1	4
335	SMART MATERIALS & STRUCTURES	UKD	0.000	MATER	0	2	1	1	4
336	STRUCTURE AND BONDING	USA	6.708	CHEM, INOR //CHEM, PHYS	1	0	3	0	4
337	THIN-WALLED STRUCTURES	UKD	0.253	ENG, MECH	2	2	0	0	4
338	TRANSACTIONS OF THE INSTITUTION OF MINING AND METALLURGY SECTION C-MINERAL PROCESSING AND EXTRACTIVE METALLURGY	UKD	0.208	GEOLOGY //MET MIN //MINERALOGY	1	0	3	0	4
339	APPLIED OPTICS	USA	1.064	OPTICS	1	2	0	0	3
340	APPLIED RADIATION AND ISOTOPES	USA	0.000	PHYS, NUCL	0	1	0	2	3
341	ARCHIVE FOR RATIONAL MECHANICS AND ANALYSIS	DEU	1.108	MECHANICS	1	0	0	2	3
342	BERICHTE DER BUNSEN GESELLSCHAFT FUR PHYSIKALISCHE CHEMIE-AN INTERNATIONAL JOURNAL OF PHYSICAL CHEMISTRY	DEU	1.271	CHEM, PHYS	0	0	1	2	3
343	BIOFOULING	UKD	0.000	ENV SCI //TOXICOL	0	0	1	2	3
344	CANADIAN JOURNAL OF CHEMISTRY-REVUE CANADIENNE DE CHIMIE	CAN	1.068	CHEMISTRY	0	1	0	2	3

Table 5 contd.

345	CHEMICAL REVIEWS	USA	13.000	CHEMISTRY	1	0	1	1	3
346	CHINESE JOURNAL OF PHYSICS	PRC	0.000	PHYSICS	0	0	0	3	3
347	CHINESE JOURNAL OF POLYMER SCIENCE	PRC	0.000	POLYM SCI	0	0	2	1	3
348	CIM BULLETIN	CAN	0.110	MET MIN	0	1	0	2	3
349	ENERGY CONVERSION AND MANAGEMENT	USA	0.000	ENERGY	0	1	0	2	3
350	ENGINEERING ANALYSIS WITH BOUNDARY ELEMENTS	UKD	0.000	ENG, MECH	0	2	1	0	3
351	EUROPEAN JOURNAL OF MINERALOGY	DEU	1.069	MINERALOGY	1	1	1	0	3
352	FUEL	UKD	0.788	ENERGY //ENG, CHEM	0	0	0	3	3
353	FULLERENE SCIENCE AND TECHNOLOGY	USA	0.000	FULLERENE	0	0	0	3	3
354	HOLZFORSCHUNG	DEU	0.616	FORESTRY //MATER, PAP	2	1	0	0	3
355	INDIAN JOURNAL OF CHEMISTRY SECTION B-ORGANIC CHEMISTRY INCLUDING MEDICINAL CHEMISTRY	IND	0.275	CHEM, ORG	0	1	1	1	3
356	INSIGHT	USA	0.000	MED, GEN	0	0	0	3	3
357	INTERNATIONAL JOURNAL OF MULTIPHASE FLOW	UKD	0.759	MECHANICS	0	1	1	1	3
358	JOURNAL OF CONTROLLED RELEASE	NLD	1.939	CHEMISTRY //PHARMACOL	1	0	0	2	3
359	JOURNAL OF FIRE SCIENCES	USA	0.667	ENGINEER //MATERIALS	0	2	1	0	3
360	JOURNAL OF PHOTOCHEMISTRY AND PHOTOBIOLOGY A-CHEMISTRY	CHE	1.084	CHEM, PHYS	0	1	1	1	3
361	JOURNAL OF RADIOANALYTICAL AND NUCLEAR CHEMISTRY-ARTICLES	HUN	0.471	CHEM, ANAL //CHEM, INOR //NUCL SCI	1	1	1	0	3
362	JOURNAL OF RHEOLOGY	USA	1.876	MECHANICS	1	1	0	1	3
363	JOURNAL OF STRAIN ANALYSIS FOR ENGINEERING DESIGN	UKD	0.448	ENG, MECH //MATERIALS	1	1	1	0	3
364	JOURNAL OF THE INSTITUTION OF ELECTRONICS AND TELECOMMUNICATION ENGINEERS	IND	0.000	ELECTRONICS	0	0	0	3	3
365	MAGAZINE OF CONCRETE RESEARCH	UKD	0.431	CONSTR	0	2	1	0	3
366	NEUES JAHRBUCH FUR MINERALOGIE-MONATSHEFTE	DEU	0.298	MINERALOGY	1	2	0	0	3
367	NUMERICAL HEAT TRANSFER PART B-FUNDAMENTALS	USA	0.714	MECHANICS	0	3	0	0	3
368	NUOVO CIMENTO DELLA SOCIETA ITALIANA DI FISICA D-CONDENSED MATTER ATOMIC MOLECULAR AND CHEMICAL PHYSICS FLUIDS PLASMAS BIOPHYSICS	ITA	0.404	PHYSICS	1	0	2	0	3
369	OPTICAL MATERIALS	NLD	0.000	OPTICS	0	1	1	1	3
370	PHYSICS AND CHEMISTRY OF MINERALS	USA	1.724	MINERALOGY	1	0	0	2	3
371	POLYMERS & POLYMER COMPOSITES	USA	0.000	POLYM SCI	0	0	0	3	3
372	PROCESSING OF ADVANCED MATERIALS	UKD	0.000	ENG, MECH	0	0	1	2	3
373	REVIEW OF SCIENTIFIC INSTRUMENTS	USA	1.288	INSTRUM //PHYS, APPL	1	0	0	2	3
374	SENSORS AND ACTUATORS A-PHYSICAL	CHE	0.822	ENG, ELEC //INSTRUM	1	0	1	1	3
375	SUPERLATTICES AND MICROSTRUCTURES	UKD	0.912	PHYS, COND	0	2	1	0	3
376	THEORETICAL AND APPLIED FRACTURE MECHANICS	NLD	0.149	ENG, MECH //MECHANICS	1	0	1	1	3
377	WARME UND STOFFUBERTRAGUNG-THERMO AND FLUID DYNAMICS	USA	0.155	MECHANICS	0	0	0	3	3
378	WOOD AND FIBER SCIENCE	USA	0.452	FORESTRY //MATER, PAP	0	1	1	1	3
379	ZEOLITES	UKD	1.795	CHEM, PHYS	1	2	0	0	3
380	ADVANCES IN COMPOSITE TRIBOLOGY	UKD	0.000	ENG, MECH	0	0	0	2	2
381	ADVANCES IN POLYMER TECHNOLOGY	USA	0.000	PLASTICS	0	0	2	0	2
382	ANALYTICA CHIMICA ACTA	NLD	2.033	CHEM, ANAL	0	2	0	0	2
383	ANTI-CORROSION METHODS AND MATERIALS	UKD	0.000	METALL	0	0	0	2	2
384	APPLIED CLAY SCIENCE	NLD	0.000	GEOLOGY	0	0	1	1	2
385	APPLIED SPECTROSCOPY REVIEWS	USA	0.727	INSTRUM //SPECTROSCO	1	0	0	1	2
386	BIO-MEDICAL MATERIALS AND ENGINEERING	USA	0.000	ENG, BIOM	0	2	0	0	2
387	BIOMATERIAL-LIVING SYSTEM INTERACTIONS	SUN	0.000	BIOMAT	0	0	1	1	2
388	BIORESOURCE TECHNOLOGY	UKD	0.558	AGRICUL //BIOTECH //ENERGY	0	2	0	0	2

Table 5 contd.

389	CALPHAD-COMPUTER COUPLING OF PHASE DIAGRAMS AND THERMOCHEMISTRY	UKD	0.881	CHEM, PHYS //ENGINEER	0	1	0	1	2
390	CANADIAN CERAMICS QUARTERLY - JOURNAL OF THE CANADIAN CERAMIC SOCIETY	CAN	0.000	CERAMICS	0	2	0	0	2
391	CANADIAN GEOTECHNICAL JOURNAL	CAN	0.346	ENG, CIVIL //GEOSCI	0	0	1	1	2
392	CELLULAR POLYMERS	UKD	0.023	PLASTICS	1	0	1	0	2
393	CHEMISTRY LETTERS	JPN	1.565	CHEMISTRY	1	0	0	1	2
394	CLAYS AND CLAY MINERALS	UKD	1.196	MINERALOGY	1	0	0	1	2
395	COORDINATION CHEMISTRY REVIEWS	NLD	3.763	CHEM, INOR	0	0	0	2	2
396	DIAMOND AND RELATED MATERIALS	NLD	0.000	CHEMISTRY //CRYSTAL	0	0	1	1	2
397	EUROPEAN JOURNAL OF MECHANICS A-SOLIDS	FRA	0.492	MATHS, APP //MECHANICS	0	1	1	0	2
398	FIRE SAFETY JOURNAL	UKD	0.000	FIRE PREVENT	0	0	2	0	2
399	GEOTEXTILES AND GEOMEMBRANES	UKD	0.000	BIOPHYS	0	0	1	1	2
400	GLASTECHNISCHE BERICHTE	DEU	0.283	CERAMICS	1	1	0	0	2
401	HOLZ ALS ROH-UND WERKSTOFF	DEU	0.000	CONSTR	0	0	1	1	2
402	IEEE ELECTRON DEVICE LETTERS	USA	1.977	ENG, ELEC	1	0	1	0	2
403	IEEE JOURNAL OF SOLID-STATE CIRCUITS	USA	0.996	ENG, ELEC	1	1	0	0	2
404	IEEE TRANSACTIONS ON ENERGY CONVERSION	USA	0.213	ENG, ELEC	0	2	0	0	2
405	IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES	USA	1.256	ENG, ELEC //TELECOMM	0	0	1	1	2
406	IEEE TRANSACTIONS ON SEMICONDUCTOR MANUFACTURING	USA	1.172	SEMICONDUCTORS	1	0	1	0	2
407	IEEE TRANSACTIONS ON ULTRASONICS FERROELECTRICS AND FREQUENCY CONTROL	USA	1.032	ACOUSTICS //ENG, ELEC	1	0	0	1	2
408	INDIAN JOURNAL OF BIOCHEMISTRY & BIOPHYSICS	IND	0.000	BIOCHEM //BIOPHYS	0	1	0	1	2
409	INDIAN JOURNAL OF MARINE SCIENCES	IND	0.000	MARINE	0	2	0	0	2
410	INORGANIC CHEMISTRY	USA	2.721	CHEM, INOR	0	0	1	1	2
411	INORGANIC MATERIALS	SUN	0.016	MATER	2	0	0	0	2
412	INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES	UKD	1.685	BIOCH, MOL	0	1	0	1	2
413	INTERNATIONAL JOURNAL OF PHARMACEUTICS	NLD	0.870	PHARMACOL	1	0	1	0	2
414	INTERNATIONAL JOURNAL OF PLASTICITY	UKD	0.595	ENG, MECH //MATERIALS //MECHANICS	0	1	0	1	2
415	JOURNAL DE PHYSIQUE IV	FRA	0.000	PHYSICS	0	0	0	2	2
416	JOURNAL OF APPLIED BIOMATERIALS	USA	0.567	ENG, BIOM //MATERIALS	1	0	0	1	2
417	JOURNAL OF BIOACTIVE AND COMPATIBLE POLYMERS	USA	0.000	BIOCH, MOL	1	0	1	0	2
418	JOURNAL OF BIOMATERIALS SCIENCE-POLYMER EDITION	NLD	0.000	CHEM, ORG	0	0	0	2	2
419	JOURNAL OF BIOTECHNOLOGY	NLD	1.511	BIOTECH	0	0	0	2	2
420	JOURNAL OF CONSTRUCTIONAL STEEL RESEARCH	UKD	0.000	ENG, CIVIL	0	0	0	2	2
421	JOURNAL OF DISPERSION SCIENCE AND TECHNOLOGY	USA	0.551	CHEM, PHYS	0	0	0	2	2
422	JOURNAL OF ELASTICITY	NLD	0.453	ENG, MECH //ENGINEER //MATERIALS	1	1	0	0	2
423	JOURNAL OF GEOTECHNICAL ENGINEERING-ASCE	USA	0.521	ENG, CIVIL //GEOSCI	0	1	0	1	2
424	JOURNAL OF LUMINESCENCE	NLD	1.197	OPTICS	2	0	0	0	2
425	JOURNAL OF MEMBRANE SCIENCE	NLD	1.127	ENG, CHEM //POLYM SCI	0	2	0	0	2
426	JOURNAL OF MODERN OPTICS	UKD	0.807	OPTICS	1	0	0	1	2
427	JOURNAL OF MOLECULAR CATALYSIS	CHE	1.430	CHEM, PHYS	1	0	1	0	2
428	JOURNAL OF NON-NEWTONIAN FLUID MECHANICS	NLD	1.397	MECHANICS	1	0	0	1	2
429	JOURNAL OF NUCLEAR SCIENCE AND TECHNOLOGY	JPN	0.425	NUCL SCI	1	1	0	0	2
430	JOURNAL OF THE AMERICAN CHEMICAL SOCIETY	USA	5.298	CHEMISTRY	0	1	0	1	2

Table 5 contd.

431	JOURNAL OF THE CHEMICAL SOCIETY-PERKIN TRANSACTIONS 2	UKD	0.000	CHEM, ORG //CHEM, PHYS	0	0	0	2	2
432	JOURNAL OF THE MECHANICS AND PHYSICS OF SOLIDS	USA	2.236	MECHANICS	1	0	0	1	2
433	JOURNAL OF THERMAL SPRAY TECHNOLOGY	USA	0.000	COATING	0	0	2	0	2
434	JOURNAL OF WOOD CHEMISTRY AND TECHNOLOGY	USA	0.847	MATER, PAP	1	0	0	1	2
435	JPC-JOURNAL OF PLANAR CHROMATOGRAPHY-MODERN TLC	HUN	0.000	ENG, MECH	0	1	0	1	2
436	MACHINING OF COMPOSITE MATERIALS II	USA	0.000	COMPOSITES	0	0	0	2	2
437	MACROMOLECULAR CHEMISTRY AND PHYSICS	UKD	0.000	POLYM SCI	0	0	0	2	2
438	MATERIALS & DESIGN	UKD	0.000	ENG, MECH	0	0	0	2	2
439	MATERIALS AND STRUCTURES	UKD	0.000	CONSTR	0	1	0	1	2
440	MEASUREMENT SCIENCE & TECHNOLOGY	UKD	0.581	ENGINEER //INSTRUM	0	0	1	1	2
441	MICROELECTRONICS JOURNAL	UKD	0.000	ENG, ELEC	0	0	0	2	2
442	MOLECULAR CRYSTALS AND LIQUID CRYSTALS SCIENCE AND TECHNOLOGY SECTION C-MOLECULAR MATERIALS	USA	0.000	ELE CHEM	0	0	0	2	2
443	NEUES JAHRBUCH FUR MINERALOGIE-ABHANDLUNGEN	DEU	0.394	MINERALOGY	1	0	0	1	2
444	NUCLEAR ENGINEERING AND DESIGN	CHE	0.166	NUCL SCI	0	1	0	1	2
445	NUCLEAR TRACKS AND RADIATION MEASUREMENTS-INTERNATIONAL JOURNAL OF RADIATION APPLICATIONS AND INSTRUMENTATION PART D	NLD	0.285	PHYS, NUCL	1	1	0	0	2
446	OPTICS COMMUNICATIONS	NLD	1.299	OPTICS	0	0	0	2	2
447	PHYSICAL REVIEW A	USA	2.157	PHYSICS	0	0	1	1	2
448	PLASMA CHEMISTRY AND PLASMA PROCESSING	USA	0.000	ENG, MECH //PHYS, ATOM //PHYS, FLUI	0	0	1	1	2
449	POLYMER NETWORKS & BLENDS	CAN	0.000	POLYM SCI	0	1	1	0	2
450	POWDER METALLURGY	DEU	0.000	MET MIN	0	0	2	0	2
451	PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART C-JOURNAL OF MECHANICAL ENGINEERING SCIENCE	UKD	0.000	ENG, MECH	0	2	0	0	2
452	PROCEEDINGS OF THE ROYAL SOCIETY OF LONDON SERIES A-MATHEMATICAL AND PHYSICAL SCIENCES	UKD	1.673	MULTIDIS //PHYSICS	0	1	0	1	2
453	RADIATION PROTECTION DOSIMETRY	UKD	0.000	PHYS, NUCL	0	1	1	0	2
454	RESEARCH ON CHEMICAL INTERMEDIATES	NLD	0.931	CHEMISTRY	0	1	0	1	2
455	SEPARATION SCIENCE AND TECHNOLOGY	USA	0.556	CHEM, ANAL //ENG, CHEM	0	1	1	0	2
456	STRUCTURAL INTERMETALLICS	USA	0.000	METALL	0	0	0	2	2
457	SURFACE AND INTERFACE ANALYSIS	UKD	0.000	CHEM, PHYS	0	0	2	0	2
458	TRANSACTIONS OF THE INSTITUTE OF METAL FINISHING	UKD	0.000	METAL FINISHING	0	1	1	0	2
459	TRANSACTIONS OF THE INSTITUTION OF MINING AND METALLURGY SECTION A-MINING INDUSTRY	UKD	0.000	GEOLOGY //MET MIN //MINERALOGY	0	0	0	2	2
460	TRENDS IN POLYMER SCIENCE	UKD	0.000	POLYM SCI	0	0	2	0	2
461	X-RAY SPECTROMETRY	UKD	1.022	SPECTROSCO	0	1	0	1	2
462	ZEITSCHRIFT FUR NATURFORSCHUNG SECTION B-A J OURNAL OF CHEMICAL SCIENCES	DEU	0.870	CHEM, INOR //CHEM, ORG	0	1	0	1	2
463	ACS SYMPOSIUM SERIES	USA	0.690	CHEMISTRY	0	0	1	0	1
464	ACTA CHIMICA HUNGARICA	HUN	0.282	CHEMISTRY	1	0	0	0	1
465	ACTA CRYSTALLOGRAPHICA SECTION D-BIOLOGICAL CRYSTALLOGRAPHY	DNK	0.000	CRYSTAL	0	0	0	1	1
466	ADHESIVES ENGINEERING	USA	0.000	PLASTICS	0	0	0	1	1
467	ADVANCED CERAMICS	UKD	0.000	CERAMICS	0	0	1	0	1
468	ADVANCED MATERIALS	USA	0.000	ENG, MECH	1	0	0	0	1
469	ADVANCED POWDER TECHNOLOGY	NLD	0.000	ENG, CHEM	0	0	0	1	1
470	ADVANCES IN APPLIED MICROBIOLOGY	USA	0.000	BIOTECH //MICROBIOL	0	0	1	0	1
471	ADVANCES IN POLYMER SCIENCE	USA	0.000	CHEM, ORG	0	0	1	0	1
472	AICHE JOURNAL	USA	0.000	ENG, CHEM	0	1	0	0	1
473	AMERICAN MINERALOGIST	USA	1.693	MINERALOGY //GEOLOGY	1	0	0	0	1
474	ANALYTICAL CHEMISTRY	USA	4.494	CHEM, ANAL	0	0	0	1	1
475	ANALYTICAL LETTERS	USA	1.000	CHEM, ANAL	0	1	0	0	1
476	ANNALS OF NUCLEAR ENERGY	USA	0.326	NUCL SCI	1	0	0	0	1
477	ANNUAL REVIEW OF MATERIALS SCIENCE	USA	2.162	MATER	1	0	0	0	1

Table 5 contd.

478	APPLIED ACOUSTICS	UKD	0.000	ACOUSTICS	0	1	0	0	1
479	APPLIED BIOCHEMISTRY AND BIOTECHNOLOGY	USA	0.808	BIOCH, MOL //BIOTECH	0	1	0	0	1
480	APPLIED MATHEMATICAL MODELLING	USA	0.000	COMPUTER //MATHEMAT	0	1	0	0	1
481	APPLIED ORGANOMETALLIC CHEMISTRY	UKD	0.000	ENG, CHEM	0	0	1	0	1
482	ASTROPHYSICS AND SPACE SCIENCE	NLD	0.325	ASTRONOMY	0	1	0	0	1
483	ATOMIC SPECTROSCOPY	USA	2.222	SPECTROSCO	0	1	0	0	1
484	BIOPHYSICAL JOURNAL	USA	0.000	BIOPHYS	0	0	1	0	1
485	BIOSENSORS & BIOELECTRONICS	UKD	2.295	BIOTECH	0	0	0	1	1
486	BRITISH JOURNAL OF INDUSTRIAL MEDICINE	UKD	1.401	PUB HEALTH	0	1	0	0	1
487	BUILDING AND ENVIRONMENT	USA	0.141	CONSTR	1	0	0	0	1
488	BULLETIN OF THE KOREAN CHEMICAL SOCIETY	KOR	0.542	CHEMISTRY	0	0	0	1	1
489	CANADIAN JOURNAL OF CHEMICAL ENGINEERING	CAN	0.566	ENG, CHEM	0	1	0	0	1
490	CATALYSIS LETTERS	CHE	1.681	CHEM, PHYS	1	0	0	0	1
491	CATALYSIS REVIEWS - SCIENCE AND ENGINEERING	USA	0.000	CHEM, PHYS	0	0	1	0	1
492	CFI - CERAMIC FORUM INTERNATIONAL	DEU	0.000	CERAMICS	0	0	1	0	1
493	CHEMIA ANALITYCZNA	POL	0.323	CHEM, ANAL	0	0	1	0	1
494	CHEMICAL ENGINEERING COMMUNICATIONS	UKD	0.342	ENG, CHEM	0	1	0	0	1
495	CHEMICAL PROCESSING OF CERAMICS	FRA	0.000	CERAMICS	0	0	0	1	1
496	CHEMICAL SOCIETY REVIEWS	UKD	5.563	CHEMISTRY	0	0	0	1	1
497	CHROMATOGRAPHIA	DEU	1.573	CHEM, ANAL	0	0	1	0	1
498	CLAY MINERALS	UKD	0.685	MINERALOGY	0	1	0	0	1
499	CLINICAL MATERIALS	UKD	0.000	MED, GEN	0	1	0	0	1
500	COMPOSITES MANUFACTURING	USA	0.000	ENG, MECH	0	0	1	0	1
501	COMPUTERS & MATHEMATICS WITH APPLICATIONS	UKD	0.288	COMPUTER //MATHS, APP	0	1	0	0	1
502	COMPUTERS IN INDUSTRY	NLD	0.000	COMPUTER	0	1	0	0	1
503	CROATICA CHEMICA ACTA	YUG	0.403	CHEMISTRY	0	1	0	0	1
504	DRUG DEVELOPMENT AND INDUSTRIAL PHARMACY	USA	0.308	PHARMACOL	1	0	0	0	1
505	DYES AND PIGMENTS	UKD	0.443	CHEM, APPL	1	0	0	0	1
506	ELECTRIC MACHINES AND POWER SYSTEMS	USA	0.000	ENG, ELEC	0	0	0	1	1
507	ENVIRONMENTAL TECHNOLOGY	UKD	0.606	ENV SCI	0	0	0	1	1
508	ERDOL & KOHLE ERDGAS PETROCHEMIE	DEU	0.315	ENERGY //ENG, CHEM //GEOLOGY	0	0	0	1	1
509	ESA JOURNAL-EUROPEAN SPACE AGENCY	FRA	0.261	AEROSPACE	0	1	0	0	1
510	GEOTECHNIQUE	UKD	0.744	ENG, CIVIL //GEOSCI	1	0	0	0	1
511	HEAT RECOVERY SYSTEMS & CHP	USA	0.000	PHYSICS	0	1	0	0	1
512	HUNGARIAN JOURNAL OF INDUSTRIAL CHEMISTRY	HUN	0.000	CHEMISTRY	0	1	0	0	1
513	IEEE TRANSACTIONS ON COMPONENTS HYBRIDS AND MANUFACTURING TECHNOLOGY	USA	0.323	ENG, ELEC //MATERIALS	1	0	0	0	1
514	IEEE TRANSACTIONS ON DIELECTRICS AND ELECTRICAL INSULATION	USA	0.000	ENG, ELEC	0	0	0	1	1
515	IEEE TRANSACTIONS ON ELECTROMAGNETIC COMPATIBILITY	USA	0.435	ENG, ELEC //TELECOMM	0	1	0	0	1
516	IEEE TRANSACTIONS ON NUCLEAR SCIENCE	USA	0.000	ENG, ELEC //NUCL SCI	0	0	1	0	1
517	INDIAN JOURNAL OF ANIMAL SCIENCES	IND	0.000	ZOOLOGY	0	0	1	0	1
518	INDUSTRIAL DIAMOND REVIEW	UKD	0.000	TECHNOL	0	0	1	0	1
519	INORGANICA CHIMICA ACTA	CHE	1.372	CHEM, INOR	0	0	0	1	1
520	INSTITUTE OF PHYSICS CONFERENCE SERIES	UKD	0.336	PHYSICS	1	0	0	0	1
521	INTERNATIONAL JOURNAL OF ENERGY RESEARCH	UKD	0.059	ENERGY	1	0	0	0	1
522	INTERNATIONAL JOURNAL OF FOOD SCIENCE AND TECHNOLOGY	UKD	0.479	FOOD SCI	0	0	0	1	1
523	INTERNATIONAL JOURNAL OF MATERIALS & PRODUCT TECHNOLOGY	CHE	0.000	TECHNOL	0	0	0	1	1
524	INTERNATIONAL JOURNAL OF PEPTIDE AND PROTEIN RESEARCH	DNK	1.894	BIOCH, MOL	0	0	0	1	1
525	INTERNATIONAL JOURNAL OF QUANTUM CHEMISTRY	USA	1.332	CHEM, PHYS	0	1	0	0	1

Table 5 contd.

526	INTERNATIONAL JOURNAL OF REFRACTORY METALS & HARD MATERIALS	UKD	0.000	METALL	0	0	0	1	1
527	INTERNATIONAL POLYMER PROCESSING	DEU	0.000	POLYM SCI	0	0	0	1	1
528	JOURNAL OF BIOMOLECULAR STRUCTURE & DYNAMICS	USA	1.788	BIOCH, MOL //BIOPHYS	0	0	1	0	1
529	JOURNAL OF CHEMICAL AND ENGINEERING DATA	USA	0.789	CHEMISTRY //ENG, CHEM	0	0	0	1	1
530	JOURNAL OF CHEMICAL TECHNOLOGY AND BIOTECHNOLOGY	UKD	0.579	BIOTECH //CHEMISTRY //ENG, CHEM	0	0	1	0	1
531	JOURNAL OF FLUID MECHANICS	UKD	1.606	MECHANICS //PHYS, FLUI	1	0	0	0	1
532	JOURNAL OF FLUORINE CHEMISTRY	CHE	0.780	CHEM, INOR	0	0	0	1	1
533	JOURNAL OF HEAT TREATING	USA	0.000	METALL	0	1	0	0	1
534	JOURNAL OF HYDRAULIC ENGINEERING-ASCE	USA	0.678	ENG, CIVIL //ENG, MECH	0	0	0	1	1
535	JOURNAL OF INORGANIC AND ORGANOMETALLIC POLYMERS	USA	0.000	CHEM, ORG	0	0	1	0	1
536	JOURNAL OF LIGHTWAVE TECHNOLOGY	USA	1.746	OPTICS	0	1	0	0	1
537	JOURNAL OF LIQUID CHROMATOGRAPHY	USA	1.214	CHEM, ANAL	1	0	0	0	1
538	JOURNAL OF MATERIALS ENGINEERING	USA	0.254	METALL	1	0	0	0	1
539	JOURNAL OF MICROENCAPSULATION	UKD	0.430	PHARMACOL	1	0	0	0	1
540	JOURNAL OF MOLECULAR BIOLOGY	USA	5.253	BIOCH, MOL	0	0	0	1	1
541	JOURNAL OF MOLECULAR STRUCTURE	NLD	0.943	CHEM, PHYS	0	0	0	1	1
542	JOURNAL OF NEURORADIOLOGY	FRA	0.327	MED, GEN	1	0	0	0	1
543	JOURNAL OF PHYSICS A-MATHEMATICAL AND GENERAL	UKD	2.189	PHYSICS	0	0	0	1	1
544	JOURNAL OF PRESSURE VESSEL TECHNOLOGY-TRANSACTIONS OF THE ASME	USA	0.000	ENG, MECH	0	1	0	0	1
545	JOURNAL OF QUANTITATIVE SPECTROSCOPY & RADIATIVE TRANSFER	UKD	0.775	SPECTROSCO	0	1	0	0	1
546	JOURNAL OF STATISTICAL PHYSICS	USA	1.424	PHYS, MATH	0	0	0	1	1
547	JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA	USA	1.186	ACOUSTICS	1	0	0	0	1
548	JOURNAL OF THE AMERICAN OIL CHEMISTS SOCIETY	USA	0.983	CHEM, APPL //FOOD SCI	0	0	0	1	1
549	JOURNAL OF THE CHEMICAL SOCIETY-DALTON TRANSACTIONS	UKD	1.834	CHEM, INOR	0	0	0	1	1
550	JOURNAL OF THE CHEMICAL SOCIETY-PERKIN TRANSACTIONS I	UKD	1.490	CHEM, ORG	0	1	0	0	1
551	JOURNAL OF THE OPTICAL SOCIETY OF AMERICA A-OPTICS IMAGE SCIENCE AND VISION	USA	0.000	OPTICS	0	0	0	1	1
552	JOURNAL OF THEORETICAL BIOLOGY	USA	1.174	BIOL, MISC	0	0	0	1	1
553	JOURNAL OF THERMOPLASTIC COMPOSITE MATERIALS	USA	0.000	PLASTICS	0	0	0	1	1
554	JSME INTERNATIONAL JOURNAL SERIES A-MECHANICS AND MATERIAL ENGINEERING	JPN	0.000	ENG, MECH	0	0	0	1	1
555	JSME INTERNATIONAL JOURNAL SERIES C-DYNAMICS CONTROL ROBOTICS DESIGN AND MANUFACTURING	JPN	0.000	ENG, MECH	0	0	1	0	1
556	KOVOVE MATERIALY-METALLIC MATERIALS	CSK	0.000	METALL	0	1	0	0	1
557	KVANTOVAYA ELEKTRONIKA	SUN	0.000	CRYSTAL	0	0	0	1	1
558	LIEBIGS ANNALEN DER CHEMIE	DEU	1.266	CHEMISTRY	0	1	0	0	1
559	MACHINING OF COMPOSITE MATERIALS	USA	0.000	COMPOSITES	0	0	1	0	1
560	MACROMOLECULAR RAPID COMMUNICATIONS	CHE	0.000	POLYM SCI	0	0	0	1	1
561	MAGNETIC ULTRATHIN FILMS - MULTILAYERS AND SURFACES	NA	0.000	THIN FILMS	0	0	1	0	1
562	MAKROMOLEKULARE CHEMIE-THEORY AND SIMULATIONS	CHE	0.000	CHEM, ORG	0	0	1	0	1
563	MATERIAL UND ORGANISMEN	DEU	0.245	CHEM, ANAL	1	0	0	0	1
564	MECHANICS OF STRUCTURES AND MACHINES	USA	0.000	MECHANICS	0	0	0	1	1
565	MEDICAL SCIENCE RESEARCH	UKD	0.000	MED, GEN	0	0	0	1	1
566	MICROCHEMICAL JOURNAL	USA	0.548	CHEM, ANAL	1	0	0	0	1
567	MINERALS AND METALLURGICAL PROCESSING	USA	0.000	MET MIN	0	0	0	1	1
568	MOLECULAR MATERIALS	USA	0.000	ELE CHEM	0	0	1	0	1
569	NATURE	UKD	22.139	MULTIDIS	0	0	0	1	1
570	NEUE HUTTE	DEU	0.000	METALL	0	0	1	0	1

Table 5 contd.

571	NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT	NLD	0.000	PHYS, NUCL	0	0	1	0	1
572	NUCLEAR PHYSICS B	NLD	5.450	PHYS, PART	0	0	0	1	1
573	NUCLEAR SCIENCE AND ENGINEERING	USA	0.435	NUCL SCI	1	0	0	0	1
574	NUCLEAR TECHNOLOGY	USA	0.373	NUCL SCI	0	0	1	0	1
575	NUOVO CIMENTO DELLA SOCIETA ITALIANA DI FISICA A-NUCLEI PARTICLES AND FIELDS	ITA	0.495	PHYS, PART	0	0	1	0	1
576	OCEAN ENGINEERING	UKD	0.158	ENG, CIVIL	0	0	1	0	1
577	OPTICAL AND QUANTUM ELECTRONICS	UKD	1.267	ENG, ELEC //OPTICS	0	0	0	1	1
578	OPTICS AND LASER TECHNOLOGY	UKD	0.340	OPTICS //PHYS, APPL	0	1	0	0	1
579	OPTICS AND LASERS IN ENGINEERING	UKD	0.275	OPTICS	1	0	0	0	1
580	ORGANOMETALLICS	USA	2.970	CHEM, INOR //CHEM, ORG	0	0	0	1	1
581	PEPTIDE RESEARCH	USA	0.000	BIOCH, MOL	0	0	1	0	1
582	PHARMAZIE	DEU	0.309	CHEMISTRY //PHARMACOL	0	0	1	0	1
583	PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY OF LONDON SERIES A-PHYSICAL SCIENCES AND ENGINEERING	UKD	1.182	MULTIDIS	1	0	0	0	1
584	PHOSPHORUS SULFUR AND SILICON AND THE RELATED ELEMENTS	UKD	0.363	CHEM, INOR	0	1	0	0	1
585	PHYSICA A	NLD	1.354	PHYSICS	0	0	0	1	1
586	PHYSICS AND CHEMISTRY OF LIQUIDS	UKD	0.376	CHEM, PHYS //PHYS, COND	1	0	0	0	1
587	PHYSICS REPORTS-REVIEW SECTION OF PHYSICS LETTERS	NLD	6.200	PHYSICS	1	0	0	0	1
588	PHYTON-ANNALES REI BOTANICAE	AUT	0.000	BOTANY	0	0	1	0	1
589	PLASTICS AND RUBBER PROCESSING AND APPLICATIONS	UKD	0.000	PLASTICS	1	0	0	0	1
590	POLYMER REACTION ENGINEERING	JPN	0.000	POLYM SCI	0	0	0	1	1
591	PROCEEDINGS OF THE INDIAN ACADEMY OF SCIENCES-MATHEMATICAL SCIENCES	IND	0.000	MATHEMAT	0	1	0	0	1
592	PROCESS BIOCHEMISTRY	UKD	0.557	BIOCH, MOL //BIOTECH	0	1	0	0	1
593	PROGRESS IN BIOPHYSICS & MOLECULAR BIOLOGY	UKD	4.133	BIOCH, MOL //BIOPHYS	1	0	0	0	1
594	PROGRESS IN MATERIALS SCIENCE	USA	0.000	ENG, MECH	0	0	0	1	1
595	PROTEIN SCIENCE	USA	0.000	BIOCH, MOL	0	0	0	1	1
596	PULP & PAPER-CANADA	CAN	0.000	PAPER	0	1	0	0	1
597	PURE AND APPLIED CHEMISTRY	UKD	1.739	CHEMISTRY	0	0	0	1	1
598	RADIOCHIMICA ACTA	DEU	0.858	CHEM, INOR //NUCL SCI	0	0	0	1	1
599	REACTION KINETICS AND CATALYSIS LETTERS	HUN	0.000	CHEM, PHYS	0	0	0	1	1
600	REGULATORY TOXICOLOGY AND PHARMACOLOGY	USA	1.261	MED, LEG //PHARMACOL //TOXICOL	1	0	0	0	1
601	RESOURCES CONSERVATION AND RECYCLING	NLD	0.215	WASTE MANAGEMENT	1	0	0	0	1
602	REVIEWS OF MODERN PHYSICS	USA	0.000	PHYSICS	0	0	0	1	1
603	REVUE DE METALLURGIE - CAHIERS D INFORMATIONS TECHNIQUES	FRA	0.000	METALL	0	1	0	0	1
604	REVUE INTERNATIONALE DES HAUTES TEMPERATURES ET DES REFRACTAIRES	FRA	0.000	CHEM, PHYS	0	1	0	0	1
605	REVUE ROUMAINE DE CHIMIE	ROM	0.270	CHEMISTRY	0	0	0	1	1
606	RHEOLOGICA ACTA	DEU	0.862	MECHANICS	0	1	0	0	1
607	SCIENCE	USA	0.000	MULTIDIS	0	0	0	1	1
608	SAMPE QUARTERLY-SOCIETY FOR THE ADVANCEMENT OF MATERIAL AND PROCESS ENGINEERING	USA	0.339	MATER//ENGINEER	0	1	0	0	1
609	SOLID MECHANICS ARCHIVES	NLD	0.000	MECHANICS	1	0	0	0	1
610	SOLID STATE PHYSICS - ADVANCES IN RESEARCH AND APPLICATIONS	USA	0.000	PHYSICS	0	0	1	0	1
611	SOVIET ELECTROCHEMISTRY	SUN	0.225	ELE CHEM	1	0	0	0	1
612	SOVIET JOURNAL OF NONDESTRUCTIVE TESTING-USSR	USA	0.049	ENGINEER //MATERIALS	1	0	0	0	1

Table 5 contd.

613	SOVIET PHYSICS SEMICONDUCTORS-USSR	SUN	0.286	PHYS, COND	1	0	0	0	1
614	SPECTROCHIMICA ACTA PART B-ATOMIC SPECTROSCOPY	UKD	3.356	SPECTROSCO	0	0	0	1	1
615	SPECTROSCOPY LETTERS	USA	0.505	SPECTROSCO	0	0	1	0	1
616	STEEL IN TRANSLATION	USA	0.000	MET MIN	0	0	1	0	1
617	SUPERCONDUCTING DEVICES AND THEIR APPLICATIONS	DEU	0.000	SUPERCONDUCT	0	0	0	1	1
618	SURFACE MODIFICATION TECHNOLOGIES VI	USA	0.000	PHYSICS	0	0	1	0	1
619	SURFACE SCIENCE REPORTS	NLD	12.267	CHEM, PHYS	1	0	0	0	1
620	SYNTHETIC COMMUNICATIONS	USA	0.716	CHEM, ORG	0	0	1	0	1
621	TETRAHEDRON LETTERS	UKD	2.321	CHEM, ORG	0	0	1	0	1
622	THEOCHEM-JOURNAL OF MOLECULAR STRUCTURE	NLD	0.951	CHEM, PHYS	0	1	0	0	1
623	THIN FILMS IN TRIBOLOGY	UKD	0.000	ENG, MECH	0	0	0	1	1
624	TOXICOLOGICAL AND ENVIRONMENTAL CHEMISTRY	UKD	0.322	CHEMISTRY //ENV SCI //TOXICOL	0	0	1	0	1
625	TRANSACTIONS OF THE INSTITUTION OF MINING AND METALLURGY SECTION B-APPLIED EARTH SCIENCE	UKD	0.000	GEOLOGY //MET MIN //MINERALOGY	0	0	1	0	1
626	TRANSITION METAL CHEMISTRY	UKD	0.790	CHEM, INOR	1	0	0	0	1
627	VYSOKOMOLEKULYARNYE SOEDINENIYA SERIYA A	SUN	0.379	POLYM SCI	0	1	0	0	1
628	WASTE MANAGEMENT	UKD	0.000	WASTE MANAGEMENT	0	0	0	1	1
629	ZEITSCHRIFT FUR ANGEWANDTE MATHEMATIK UND MECHANIK	DEU	0.000	MATHEMAT	0	1	0	0	1
630	ZEITSCHRIFT FUR ANGEWANDTE MATHEMATIK UND PHYSIK	CHE	0.311	MATHS, APP	0	1	0	0	1
631	ZEITSCHRIFT FUR PHYSIK D-ATOMS MOLECULES AND CLUSTERS	DEU	1.416	PHYS, ATOM	0	0	1	0	1
632	ZEITSCHRIFT FUR PHYSIKALISCHE CHEMIE-INTERNATIONAL JOURNAL OF RESEARCH IN PHYSICAL CHEMISTRY & CHEMICAL PHYSICS	DEU	0.000	CHEM, PHYS	0	0	0	1	1
	Total (Journals)				2710	2961	3027	3063	11761

Conference Papers

633	CONFERENCE ON THE PHYSICS AND TECHNOLOGY OF SEMICONDUCTOR DEVICES AND INTEGRATED CIRCUITS	0	0	76	0	76
634	ORDERING DISORDER: PROSPECT AND RETROSPECT IN CONDENSED MATTER PHYSICS - PROCEEDINGS OF THE INDO-US WORKSHOP	0	0	0	36	36
635	HIGH-PRESSURE SCIENCE AND TECHNOLOGY - 1993	0	0	0	15	15
636	PRODUCTION OF IRON	0	0	14	0	14
637	ADVANCES IN POWDER METALLURGY & PARTICULATE MATERIALS - 1992	0	0	8	0	8
638	EARTH REINFORCEMENT PRACTICE	0	0	8	0	8
639	MECHANICAL BEHAVIOUR OF MATERIALS-VI	0	0	7	0	7
640	ISAF 92 : PROCEEDINGS OF THE EIGHTH IEEE INTERNATIONAL SYMPOSIUM ON APPLICATIONS OF FERROELECTRICS	0	0	4	0	4
641	EFFECTS OF RADIATION ON MATERIALS: 16TH INTERNATIONAL SYMPOSIUM	0	0	0	4	4
642	OPTICAL MATERIALS TECHNOLOGY FOR ENERGY EFFICIENCY AND SOLAR ENERGY CONVERSION XIII	0	0	0	4	4
643	PHONON SCATTERING IN CONDENSED MATTER VII - PROCEEDINGS OF THE SEVENTH INTERNATIONAL CONFERENCE	0	0	0	4	4
644	PROCEEDINGS OF THE 1993 SEM 50TH ANNIVERSARY SPRING CONFERENCE ON EXPERIMENTAL MECHANICS	0	0	0	4	4
645	TITANIUM '92: SCIENCE AND TECHNOLOGY	0	0	0	4	4
646	1993 PULPING CONFERENCE	0	0	0	3	3
647	ALUMINIUM CAST HOUSE TECHNOLOGY - THEORY & PRACTICE	0	0	3	0	3
648	FRACTURE MECHANICS OF CONCRETE STRUCTURES	0	0	3	0	3
649	HSLA STEELS : PROCESSING	0	0	3	0	3
650	III-V ELECTRONIC AND PHOTONIC DEVICE FABRICATION AND PERFORMANCE	0	0	3	0	3
651	INTERNATIONAL SYMPOSIUM ON LOW-CARBON STEELS FOR THE 90S	0	0	0	3	3
652	FATIGUE 93	0	0	0	2	2
653	1993 IEEE 11TH INTERNATIONAL CONFERENCE ON CONDUCTION AND BREAKDOWN IN DIELECTRIC LIQUIDS (ICDL)	0	0	0	2	2
654	ADVANCES IN FATIGUE LIFETIME PREDICTIVE TECHNIQUES : 2ND VOL	0	0	2	0	2
655	ADVANCES IN METAL MATRIX COMPOSITES	0	0	2	0	2
656	CATALYTIC SELECTIVE OXIDATION	0	0	2	0	2
657	COMPUTER AIDED INNOVATION OF NEW MATERIALS II	0	0	0	2	2
658	CONCURRENT ENGINEERING APPROACH TO MATERIALS PROCESSING	0	0	2	0	2
659	KLAUS SCHULZ: SYMPOSIUM ON PROCESSING AND APPLICATIONS OF HIGH PURITY REFRACTORY METALS AND ALLOYS	0	0	0	2	2
660	SLOW POSITRON BEAM TECHNIQUES FOR SOLIDS AND SURFACES: FIFTH INTERNATIONAL WORKSHOP	0	0	0	2	2
661	SYNTHESIS OF MICROPOROUS MATERIALS	0	0	2	0	2
662	TRANSPORT AND THERMAL PROPERTIES OF F-ELECTRON S SYSTEMS	0	0	2	0	2
663	OPTICAL MATERIALS TECHNOLOGY FOR ENERGY EFFICIENCY AND SOLAR ENERGY CONVERSION XI - SELECTIVE MATERIALS	0	0	1	0	1
664	PHYSICAL CONCEPTS AND MATERIALS FOR NOVEL OPTOELECTRONIC DEVICE APPLICATIONS II: INTERNATIONAL SYMPOSIUM	0	0	0	1	1
665	POROUS MATERIALS	0	0	1	0	1
666	PROCEEDINGS OF THE FIFTEENTH INTERNATIONAL CONFERENCE ON CEMENT MICROSCOPY	0	0	0	1	1
667	PROCESSING AND FABRICATION OF ADVANCED MATERIALS FOR HIGH TEMPERATURE APPLICATIONS II	0	0	1	0	1
668	PROCESSING OF LONG LENGTHS OF SUPERCONDUCTORS	0	0	0	1	1
669	PYROMETALLURGY FOR COMPLEX MATERIALS AND WASTES - AUSTRALIAN ASIAN PACIFIC COURSE AND CONFERENCE	0	0	0	1	1
670	SECOND INTERNATIONAL CONFERENCE ON ACOUSTO- ULTRASONICS - ACOUSTO-ULTRASONIC MATERIALS CHARACTERIZATION	0	0	0	1	1
671	SOL-GEL OPTICS: PROCESSING AND APPLICATIONS	0	0	0	1	1
672	STRUCTURE-PROPERTY RELATIONSHIPS AND CORRELATIONS WITH THE ENVIRONMENTAL DEGRADATION OF ENGINEERING MATERIALS	0	0	1	0	1

Table 5 contd.

673	THEORETICAL AND APPLIED RHEOLOGY		0	0	1	0	1
674	WASTE PROCESSING AND RECYCLING IN MINING AND METALLURGICAL INDUSTRIES		0	0	1	0	1
675	MODEL-BASED DESIGN OF MATERIALS AND PROCESSES		0	0	1	0	1
676	PACIFIC RIM BIO-BASED COMPOSITES SYMPOSIUM		0	0	1	0	1
677	PARKINS SYMPOSIUM ON FUNDAMENTAL ASPECTS OF STRESS CORROSION CRACKING		0	0	1	0	1
678	7TH INTERNATIONAL SYMPOSIUM ON CORROSION IN THE PULP & PAPER INDUSTRY : PROCEEDINGS		0	0	1	0	1
679	ADVANCED METALLIZATION FOR DEVICES AND CIRCUITS - SCIENCE		0	0	0	1	1
680	ADVANCED METALLIZATION FOR ULSI APPLICATIONS		0	0	1	0	1
681	ADVANCES IN FUSION AND PROCESSING OF GLASS		0	0	1	0	1
682	ALUMINIUM-LITHIUM		0	0	1	0	1
683	AMORPHOUS INSULATING THIN FILMS		0	0	1	0	1
684	ANTEC 94 - PLASTICS: GATE WAY TO THE FUTURE		0	0	0	1	1
685	CEMENT INDUSTRY SOLUTIONS TO WASTE MANAGEMENT		0	0	1	0	1
686	CONSERVATION OF STONE AND OTHER MATERIALS		0	0	0	1	1
687	ECF 9 - RELIABILITY AND STRUCTURAL INTEGRITY OF ADVANCED MATERIALS		0	0	0	1	1
688	EXTRACTIVE METALLURGY OF COPPER		0	0	1	0	1
689	FIFTH EUROPEAN CONFERENCE ON POWER ELECTRONICS AND APPLICATIONS		0	0	0	1	1
690	FIRST INTERNATIONAL CONFERENCE ON MICROSTRUCTURES AND MECHANICAL PROPERTIES OF AGING MATERIALS		0	0	0	1	1
691	GROWTH AND CHARACTERIZATION OF MATERIALS FOR INFRARED DETECTORS		0	0	0	1	1
692	HYDRATION AND SETTING OF CEMENTS		0	0	1	0	1

Books

693	SMALL-SCALE MINING: A GLOBAL OVERVIEW		0	0	0	9	0
694	COMPUTERS IN MINERAL INDUSTRY	USA	0	0	0	4	4
695	DIFFUSION PROCESSES IN NUCLEAR MATERIALS		0	0	4	0	4
696	THALLIUM-BASED HIGH-TEMPERATURE SUPERCONDUCTORS	USA	0	0	0	4	4
697	PROPERTIES AND APPLICATIONS OF PEROVSKITE-TYPE OXIDES		0	0	3	0	3
698	LIGHT METALS 1994	USA	0	0	0	3	3
699	CARBON BLACK : SCIENCE AND TECHNOLOGY		0	0	3	0	3
700	ACTINIDE PROCESSING: METHODS AND MATERIALS		0	0	0	2	2
701	BULK CRYSTAL GROWTH		0	0	0	1	1
702	ELASTOMER TECHNOLOGY HANDBOOK		0	0	0	2	2
703	ELEMENTARY EXCITATIONS IN SOLIDS - A SPECIAL VOLUME IN HONOR OF PROFESSOR MINKO BALKANSKI ON THE OCCASION OF HIS 65TH BIRTHDAY		0	0	1	0	1
704	EXPERIMENTAL METHODS OF PHASE DIAGRAM DETERMINATION	IND	0	0	0	2	2
705	INFRARED DETECTORS - MATERIALS	USA	0	0	0	2	2
706	MULTICOMPONENT AND MULTILAYERED THIN FILMS FOR ADVANCED MICROTECHNOLOGIES : TECHNIQUES	NLD	0	0	2	0	2
707	FRACTOGRAPHY OF MODERN ENGINEERING MATERIALS: COMPOSITES AND METALS	USA	0	0	0	1	1
708	GAS-PHASE AND SURFACE CHEMISTRY IN ELECTRONIC MATERIALS PROCESSING	USA	0	0	0	1	1
709	HANDBOOK OF CRYSTAL GROWTH 1 - FUNDAMENTALS		0	0	0	1	1
710	LASER TREATMENT OF MATERIALS		0	0	1	0	1
711	LOCALIZED DAMAGE II		0	0	1	0	1
712	MAGNESIUM ALLOYS AND THEIR APPLICATIONS		0	0	1	0	1
713	MATERIALS SYNTHESIS AND PROCESSING USING ION BEAMS	ITA	0	0	0	1	1
714	MECHANISMS AND MECHANICS OF COMPOSITES FRACTURE	USA	0	0	0	1	1
715	MICROSTRUCTURE OF MATERIALS	USA	0	0	0	1	1

Table 5 contd.

716	MODELING OF CASTING	USA			0	0	1	0	1
717	MULTIFUNCTIONAL MESOPOROUS INORGANIC SOLIDS	NLD			0	0	1	0	1
718	NOISE IN PHYSICAL SYSTEMS AND 1/F FLUCTUATIONS	USA			0	0	1	0	1
719	NON-FERROUS PYROMETALLURGY : TRACE METALS	CAN			0	0	1	0	1
720	PHOTOCONDUCTION POLYMERS/METAL-CONTAINING POLYMERS	SUN			0	0	0	1	1
721	PHOTOPOLYMERS AND APPLICATIONS IN HOLOGRAPHY	FRA			0	0	0	1	1
722	PHYSICS AND CHEMISTRY OF SIO2 AND THE SI-SI0-2 INTERFACE 2				0	0	0	1	1
723	PROBABILITIES AND MATERIALS - TESTS	FRA			0	0	0	1	1
724	QUANTUM WELL AND SUPERLATTICE PHYSICS V	DEU			0	0	0	1	1
725	REFLECTIVE CRACKING IN PAVEMENTS - STATE OF THE ART AND DESIGN RECOMMENDATIONS	IND			0	0	0	1	1
726	SOFT CHEMISTRY ROUTES TO NEW MATERIALS - CHIMIE DOUCE	USA			0	0	0	1	1
727	THERMAL SPRAY COATINGS: RESEARCH	FRA			0	0	0	1	1
728	THIN FILMS: STRESSES AND MECHANICAL PROPERTIES IV	USA			0	0	0	1	1
729	PULSED LASER DEPOSITION OF THIN FILMS	USA	0.000	NA	0	0	0	1	1
	Total				2710	2961	3205	3208	12084

Table 6: India's contribution to the journal literature of materials science classified by impact factors of journals used (*MSCI* 1991-1994)

IF range*	No. of journals	No. of papers	%
≥ 0.0 - < 0.5	162	3486	29.6
≥ 0.5 - < 1.0	129	3406	28.8
≥ 1.0 - < 1.5	81	1809	15.4
≥ 1.5 - < 2.0	46	1187	10.0
≥ 2.0 - < 2.5	21	385	3.3
≥ 2.5 - < 3.0	9	160	1.4
≥ 3.0 - < 3.5	4	488	4.1
≥ 3.5 - < 4.0	2	99	0.8
≥ 4.0 - < 4.5	2	2	-
≥ 5.0 - < 6.0	4	5	-
≥ 6.0 - < 7.0	2	5	-
≥ 7.0 - < 8.0	1	10	0.1
≥ 8.0	3	5	-
Non-*SCI* +	166	714	6.5
Total	632	11761	

* Impact factors taken from *JCR* 1992.

\+ Conference papers and books/ book chapters accounted for 97 titles and 323 papers.

	No.	No. of Papers	%
SCI Journals	466	11047	91.4
Non-*SCI* Journals	166	714	5.9
Conf/ Book	97	323	2.6
Total	729	12084	

Table 7: Indian research papers covered by *MSCI* 1991-1994 classified by subfields with duplicates* (arranged in descending order)

Sl No.	Subfield	1991		1992		1993		1994		Total
		# of jrls	# of paps	# of jrls	# of paps	# of jrls	# of paps	# of jrls	# of paps	# of paps
1	PHYS, COND	24	556	23	565	22	511	20	544	2176
2	MATER	31	604	33	551	32	499	31	494	2148
3	POLYM SCI	24	259	29	322	27	345	29	328	1254
4	PHYS, APPL	24	260	23	256	19	272	22	270	1058
5	MET MIN	29	176	30	222	33	293	31	217	908
6	CRYSTAL	12	189	12	214	13	178	12	135	716
7	ENG, MECH	23	94	28	119	29	156	33	107	476
8	ENGINEER	12	81	15	134	14	121	15	120	456
9	CHEM, ANAL	12	139	11	102	13	92	9	116	449
10	CHEM, PHYS	23	86	24	102	22	117	23	121	426
11	METALL	3	72	6	105	5	54	11	104	335
12	MECHANICS	19	73	21	88	18	92	21	62	315
13	PHYSICS	14	52	14	31	18	81	24	122	286
14	CHEMISTRY	11	40	13	68	15	77	22	86	271
15	COMPUTER	1	40	5	65	2	63	2	69	237
16	ENG, ELEC	15	56	12	47	14	62	19	68	233
17	CERAMICS	6	31	9	64	11	52	9	42	189
18	PHYS, NUCL	4	33	6	43	6	34	5	45	155
19	ELE CHEM	5	24	4	26	5	22	6	52	124
20	NUCL SCI	8	36	6	26	6	32	5	30	124
21	ENG, CIVIL	6	15	7	41	8	30	10	32	118
22	ENG, CHEM	7	29	12	31	11	27	12	30	117
23	CHEM, INOR	6	19	5	18	7	32	12	43	112
24	CONSTR	6	23	7	38	7	22	6	25	108
25	TEXTILES	0	0	1	31	1	38	1	38	107
26	OPTICS	9	21	8	24	6	25	12	23	93
27	MINERALOGY	12	24	9	23	8	18	10	22	87
28	PHYS, ATOM	5	13	6	23	7	20	6	29	85
29	PLASTICS	5	11	6	22	7	32	7	20	85
30	ENERGY	3	14	5	23	3	20	6	23	80
31	MULTIDIS	5	17	4	22	4	10	7	21	70
32	GEOLOGY	8	11	6	13	7	10	10	26	60
33	ENG, BIOM	7	15	7	11	5	11	5	8	45
34	RUBBER	1	11	1	7	1	9	2	12	39
35	SPECTROSCO	3	6	7	12	4	8	7	11	37
36	BIOCH, MOL	3	3	4	11	4	11	5	11	36
37	MATER, PAP	4	6	4	9	2	8	4	10	33
38	PHYS, FLUID	2	6	1	2	3	11	3	12	31
39	AEROSPACE	1	4	2	8	1	11	1	6	29
40	CHEM, APPL	4	6	4	8	4	8	4	6	28

Table 7 contd.

41	MATHS, APP	1	1	5	10	3	8	2	6	25
42	ACOUSTICS	3	3	3	10	1	1	3	10	24
43	LUMIN	0	0	0	0	1	23	0	0	23
44	ENV SCI	1	4	1	4	3	7	3	5	20
45	CHEM, ORG	0	0	3	3	6	6	5	7	16
46	INSTRUM	3	3	1	1	2	2	5	9	15
47	ENG & TECH	0	0	0	0	0	0	1	13	13
48	LEATHER	2	8	0	0	1	2	1	2	12
49	BIOPHYS	2	2	2	2	4	4	2	2	10
50	BIOTECH	0	0	3	4	2	2	2	3	9
51	MATHEMAT	1	1	4	5	1	1	1	2	9
52	PHARMACOL	5	5	0	0	2	2	1	2	9
53	FORESTRY	1	2	2	2	1	1	1	1	6
54	MED, GEN	1	1	1	1	0	0	2	4	6
55	ONCOLOGY	1	2	0	0	0	0	1	3	5
56	COMPOSITES	0	0	0	0	1	1	1	2	3
57	ELECTRONICS	0	0	0	0	0	0	1	3	3
58	FULLERENE	0	0	0	0	0	0	1	3	3
59	AGRICUL	0	0	1	2	0	0	0	0	2
60	BIOCHEM	0	0	1	1	0	0	1	1	2
61	BIOMAT	0	0	0	0	1	1	1	1	2
62	COATING	0	0	0	0	1	2	0	0	2
63	FIRE PREVENT	0	0	0	0	1	2	0	0	2
64	FOOD SCI	0	0	0	0	0	0	2	2	2
65	MARINE	0	0	1	2	0	0	0	0	2
66	METAL FINISHING	0	0	1	1	1	1	0	0	2
67	PHYS, PART	0	0	0	0	1	1	1	1	2
68	SEMICONDUCTORS	1	1	0	0	1	1	0	0	2
69	TECHNOL	0	0	0	0	1	1	1	1	2
70	WASTE MANAGEMENT	1	1	0	0	0	0	1	1	2
71	ASTRONOMY	0	0	1	1	0	0	0	0	1
72	BIOL, MISC	0	0	0	0	0	0	1	1	1
73	BOTANY	0	0	0	0	1	1	0	0	1
74	MED, LEG	1	1	0	0	0	0	0	0	1
75	PAPER	0	0	1	1	0	0	0	0	1
76	PHYS, MATH	0	0	0	0	0	0	1	1	1
77	PUB HEALTH	0	0	1	1	0	0	0	0	1
78	SUPERCONDUCT	0	0	0	0	0	0	1	1	1
79	THIN FILMS	0	0	0	0	1	1	0	0	1
80	ZOOLOGY	0	0	0	0	1	1	0	0	1
81	BOOK	0	0	0	0	25	45	11	20	65
82	CONFERENCE	0	0	0	0	33	158	27	100	258
	Total	421	3190	462	3578	520	3789	560	37467	14304

* Some journals are classified under more than one subfield.

Table 7a: Indian research papers covered by *MSCI* 1991-1994 classified by subfields* (arranged in descending order)

Sl No.	Subfield	1991		1992		1993		1994		Total
		# of jrls	# of paps	# of jrls	# of paps	# of jrls	# of paps	# of jrls	# of paps	# of paps
1	MATER	31	604	32	550	32	499	31	494	2148
2	PHYS, COND	11	407	11	375	11	371	9	371	1524
3	POLYM SCI	21	244	24	300	24	330	25	307	1181
4	PHYS, APPL	16	199	16	207	14	233	13	220	859
5	CRYSTAL	12	189	12	214	12	177	11	134	714
6	MET MIN	16	85	19	108	21	168	19	115	476
7	CHEM, ANAL	12	139	11	102	13	92	9	116	449
8	CHEM, PHYS	22	85	24	102	21	114	22	119	420
9	ENG, MECH	22	69	27	87	28	124	31	88	368
10	METALL	3	72	6	105	5	54	11	104	335
11	CHEMISTRY	11	40	13	68	14	76	22	86	270
12	PHYSICS	12	46	12	27	16	77	21	115	265
13	COMPUTER	1	40	5	65	2	63	2	69	237
14	ENG, ELEC	14	55	12	47	14	62	18	67	231
15	ENGINEER	10	40	12	74	13	61	13	53	228
16	MECHANICS	15	58	13	58	10	58	14	48	222
17	CERAMICS	5	26	8	53	10	49	8	39	167
18	PHYS, NUCL	3	31	5	30	5	33	4	33	127
19	ELE CHEM	5	24	4	26	5	22	6	52	124
20	CONSTR	6	23	7	38	7	22	6	25	108
21	TEXTILES	0	0	1	31	1	38	1	38	107
22	CHEM, INOR	4	17	4	17	5	28	12	43	105
23	ENG, CHEM	7	29	10	28	8	23	8	23	103
24	PLASTICS	5	11	6	22	7	32	7	20	85
25	ENERGY	3	14	4	21	3	20	6	23	78
26	OPTICS	8	17	7	22	5	18	10	19	76
27	MULTIDIS	5	17	4	22	4	10	7	21	70
28	ENG, CIVIL	4	8	5	20	6	19	8	17	64
29	NUCL SCI	5	21	4	13	2	6	3	16	56
30	PHYS, ATOM	3	5	3	15	3	8	3	24	52
31	GEOLOGY	5	8	4	11	5	7	6	22	48
32	ENG, BIOM	6	14	6	10	4	10	4	7	41
33	RUBBER	1	11	1	7	1	9	2	12	39
34	BIOCH, MOL	3	3	4	11	4	11	5	11	36
35	SPECTROSCO	2	5	7	12	3	7	5	7	31
36	AEROSPACE	1	4	2	8	1	11	1	6	29
37	CHEM, APPL	4	6	4	8	4	8	4	6	28
38	MATER, PAP	3	4	2	7	1	7	3	9	27
39	MINERALOGY	7	9	4	5	2	4	4	7	25
40	ACOUSTICS	3	3	3	10	1	1	3	10	24

Table 7 contd.

41	PHYS, FLUID	1	5	1	2	1	9	1	8	24
42	LUMIN	0	0	0	0	1	23	0	0	23
43	CHEM, ORG	0	0	2	2	6	6	3	5	13
44	ENG & TECH	0	0	0	0	0	0	1	13	13
45	LEATHER	2	8	0	0	1	2	1	2	12
46	MATHEMAT	1	1	3	4	1	1	1	2	8
47	BIOPHYS	1	1	1	1	3	3	2	2	7
48	MATHS, APP	0	0	3	3	2	3	1	1	7
49	FORESTRY	1	2	2	2	1	1	1	1	6
50	MED, GEN	1	1	1	1	0	0	2	4	6
51	BIOTECH	0	0	0	0	2	2	2	3	5
52	INSTRUM	2	2	0	0	0	0	2	3	5
53	ONCOLOGY	1	2	0	0	0	0	1	3	5
54	ENV SCI	0	0	0	0	1	1	2	3	4
55	PHARMACOL	3	3	0	0	1	1	0	0	4
56	COMPOSITES	0	0	0	0	1	1	1	2	3
57	ELECTRONICS	0	0	0	0	0	0	1	3	3
58	FULLERENE	0	0	0	0	0	0	1	3	3
59	AGRICUL	0	0	1	2	0	0	0	0	2
60	BIOCHEM	0	0	1	1	0	0	1	1	2
61	BIOMAT	0	0	0	0	1	1	1	1	2
62	COATING	0	0	0	0	1	2	0	0	2
63	FIRE PREVENT	0	0	0	0	1	2	0	0	2
64	MARINE	0	0	1	2	0	0	0	0	2
65	METAL FINISHING	0	0	1	1	1	1	0	0	2
66	PHYS, PART	0	0	0	0	1	1	1	1	2
67	SEMICONDUCTORS	1	1	0	0	1	1	0	0	2
68	TECHNOL	0	0	0	0	1	1	1	1	2
69	WASTE MANAGEMENT	1	1	0	0	0	0	1	1	2
70	ASTRONOMY	0	0	1	1	0	0	0	0	1
71	BIOL, MISC	0	0	0	0	0	0	1	1	1
72	BOTANY	0	0	0	0	1	1	0	0	1
73	FOOD SCI	0	0	0	0	0	0	1	1	1
74	MED, LEG	1	1	0	0	0	0	0	0	1
75	PAPER	0	0	1	1	0	0	0	0	1
76	PHYS, MATH	0	0	0	0	0	0	1	1	1
77	PUB HEALTH	0	0	1	1	0	0	0	0	1
78	SUPERCONDUCT	0	0	0	0	0	0	1	1	1
79	THIN FILMS	0	0	0	0	1	1	0	0	1
80	ZOOLOGY	0	0	0	0	1	1	0	0	1
81	BOOK	0	0	0	0	25	45	11	20	65
82	CONFERENCE	0	0	0	0	33	158	27	100	258
	Total	343	2710	379	2961	436	3230	467	3183	12084

* Each journal is assigned to only one subfield, even though some are classified under more than one.

Table 8: India's contribution to the literature of materials science arranged by country of publication of the journals as seen from *MSCI* 1991-1994

Sl No.	Journal country	Number of papers					%
		1991	1992	1993	1994	Total	
1	USA	824	960	1012	1027	3823	31.6
2	UNITED KINGDOM	619	769	802	711	2901	24.01
3	THE NETHERLANDS	414	419	377	441	1651	13.6
4	INDIA	275	257	279	342	1153	9.5
5	GERMANY*	271	238	221	216	946	7.8
6	SWITZERLAND	142	150	162	154	608	5.0
7	DENMARK	58	51	50	37	196	1.6
8	JAPAN	22	38	40	50	150	1.2
9	HUNGARY	29	20	22	8	79	0.6
10	AUSTRIA	14	11	15	11	51	0.4
11	FRANCE	18	16	6	11	51	0.4
12	CANADA	6	12	7	10	35	0.3
13	SWEDEN	6	4	7	6	23	0.2
14	ROMANIA	2	5	7	7	21	0.2
15	ITALY	2	1	6	1	10	-
16	SINGAPORE	0	3	4	5	12	-
17	AUSTRALIA	0	4	2	3	9	-
18	RUSSIA	4	1	1	2	8	-
19	CHILE	0	0	0	8	8	-
20	ISRAEL	1	0	2	5	8	-
21	P R CHINA	0	0	2	4	6	-
22	CZECHOSLOVAKIA[a]	3	1	0	1	5	-
23	POLAND	0	1	2	2	5	-
24	KOREA	0	0	0	1	1	-
25	YUGOSLAVIA[a]	0	1	0	0	1	-
26	BOOK[b]	0	0	20	45	65	-
27	CONFERENCE[b]	0	0	158	100	258	2.1
	Total	2710	2962	3204	3208	12084	

* - includes both FRG and GDR.

a - Names of countries given are those before partition after the collapse of the Soviet Empire.

b - Country information is not given for books and conferences as the information available in the database is incomplete.

Table 9: Indian journals included in *MSCI* 1991-1994 along with number of papers from Indian addresses

Sl No.	Journal title	Subfield	Number of papers				
			1991	1992	1993	1994	Total
1	BULLETIN OF MATERIALS SCIENCE	MATER	155	51	50	74	330
2	TRANSACTIONS OF THE INDIAN INSTITUTE OF METALS	METALL	65	95	42	54	256
3	INDIAN JOURNAL OF PURE & APPLIED PHYSICS	PHYSICS	19	6	42	46	113
4	INDIAN JOURNAL OF FIBRE & TEXTILE RESEARCH	TEXTILES	0	31	38	38	107
5	INDIAN JOURNAL OF CHEMISTRY SECTION A-INORGANIC BIO-INORGANIC PHYSICAL THEORETICAL & ANALYTICAL CHEMISTRY	CHEMISTRY	9	22	11	17	59
6	PRAMANA-JOURNAL OF PHYSICS	PHYSICS	8	6	10	18	42
7	TRANSACTIONS OF THE METAL FINISHERS ASSOCIATION OF INDIA	MET MIN	0	0	18	21	39
8	BULLETIN OF ELECTROCHEMISTRY	CHEMISTRY	0	0	22	10	32
9	JOURNAL OF THE INDIAN CHEMICAL SOCIETY	CHEMISTRY	4	5	14	9	32
10	INDIAN JOURNAL OF TECHNOLOGY*	ENGINEER	6	9	13	0	28
11	RESEARCH AND INDUSTRY	MULTIDIS	7	7	5	7	26
12	CURRENT SCIENCE	MULTIDIS	6	7	2	6	21
13	JOURNAL OF SCIENTIFIC & INDUSTRIAL RESEARCH	MULTIDIS	2	7	2	3	14
14	INDIAN JOURNAL OF CHEMICAL TECHNOLOGY	ENG, TECH	0	0	0	13	13
15	PROCEEDINGS OF THE INDIAN ACADEMY OF SCIENCES-CHEMICAL SCIENCES	CHEMISTRY	1	4	1	6	12
16	INDIAN JOURNAL OF ENGINEERING AND MATERIALS SCIENCES	MATER	0	0	0	7	7
17	INDIAN JOURNAL OF PURE & APPLIED MATHEMATICS	MATHEMAT	1	2	1	2	6
18	ASIAN JOURNAL OF CHEMISTRY	CHEMISTRY	0	0	2	3	5
19	ASIAN JOURNAL OF CHEMISTRY REVIEWS	CHEMISTRY	0	0	3	1	4
20	NATIONAL ACADEMY SCIENCE LETTERS-INDIA	MULTIDIS	1	0	1	2	4
21	INDIAN JOURNAL OF CHEMISTRY SECTION B-ORGANIC CHEMISTRY INCLUDING MEDICINAL CHEMISTRY	CHEM, ORG	0	1	1	1	3
22	JOURNAL OF THE INSTITUTION OF ELECTRONICS AND TELECOMMUNICATION ENGINEERS	ELECTRO-NICS	0	0	0	3	3

Table 9 contd.

Sl No.	Journal title	Subfield	Number of papers				
			1991	1992	1993	1994	Total
23	INDIAN JOURNAL OF BIOCHEMISTRY & BIOPHYSICS	BIOCHEM	0	1	0	1	2
24	INDIAN JOURNAL OF MARINE SCIENCES	MARINE	0	2	0	0	2
25	INDIAN JOURNAL OF ANIMAL SCIENCES	ZOOLOGY	0	0	1	0	1
26	PROCEEDINGS OF THE INDIAN ACADEMY OF SCIENCES-MATHEMATICAL SCIENCES	MATHEMAT	0	1	0	0	1
	Total		284	257	279	342	1162

* #10 *Indian Journal of Technology* was split into two journals in 1994, viz. #14 *Indian Journal of Chemical Technology* and #16 *Indian Journal of Engineering and Materials Science*.

Table 10: Indian Institutions publishing papers as seen from *MSCI* 1991-1994 (arranged by descending order of papers)

Sl No.	Institution name	Number of papers				
		1991	1992	1993	1994	Total
1	INDIAN-INST-SCI, BANGALORE	204	235	246	264	949
2	INDIAN-INST-TECHNOL, KHARAGPUR	134	177	174	176	661
3	INDIAN-INST-TECHNOL, MADRAS	125	124	194	138	581
4	BHABHA-ATOM-RES-CTR, BOMBAY	146	113	136	145	540
5	INDIAN-INST-TECHNOL, NEW-DELHI	92	108	105	119	424
6	INDIAN-INST-TECHNOL, KANPUR	92	92	99	96	379
7	BANARAS-HINDU-UNIV, VARANASI	93	96	91	82	362
8	INDIAN-INST-TECHNOL, BOMBAY	78	91	96	93	358
9	NATL-PHYS-LAB, NEW-DELHI	67	69	78	74	288
10	TATA-INST-FUNDAMENTAL-RES, BOMBAY	54	57	67	78	256
11	INDIAN-ASSOC-CULTIVAT-SCI, CALCUTTA	40	50	79	77	246
12	NATL-CHEM-LAB, POONA	43	55	57	64	219
13	INDIRA-GANDHI-CTR-ATOM-RES, KALPAKKAM	35	61	65	57	218
14	CENT-ELECTROCHEM-RES-INST, KARAIKKUDI	29	34	64	52	179
15	JADAVPUR-UNIV, CALCUTTA	37	40	54	44	175
16	ANNA-UNIV, MADRAS	48	27	43	51	169
17	DEF-MET-RES-LAB, HYDERABAD	47	38	42	42	169
18	OSMANIA-UNIV, HYDERABAD	42	40	38	39	159
19	SRI-VENKATESWARA-UNIV, TIRUPATI	51	48	34	22	155
20	UNIV-POONA, POONA	42	49	34	28	153
21	UNIV-ROORKEE, ROORKEE	36	34	31	42	143
22	UNIV-CALCUTTA, CALCUTTA	32	31	32	45	140
23	UNIV-DELHI, DELHI	34	32	38	33	137
24	REG RES LAB, TRIVANDRUM	28	30	32	40	130
25	UNIV-HYDERABAD, HYDERABAD	26	24	22	54	126
26	SARDAR-PATEL-UNIV, VALLABH-VIDYANAGAR	24	32	28	31	115
27	CENT-GLASS-&-CERAM-RES-INST, CALCUTTA	16	32	32	30	110
28	SAHA-INST-NUCL-PHYS, CALCUTTA	27	24	27	31	109
29	UNIV-BOMBAY, BOMBAY	17	28	33	25	103
30	NATL-MET-LAB, JAMSHEDPUR	15	30	31	25	101
31	VIKRAM-SARABHAI-SPACE-CTR, TRIVANDRUM	21	27	27	23	98
32	COCHIN-UNIV-SCI-&-TECHNOL, COCHIN	22	28	27	19	96
33	SHIVAJI-UNIV, KOLHAPUR	26	13	25	30	94
34	UNIV-MADRAS, MADRAS	15	18	32	27	92
35	HARCOURT-BUTLER-TECHNOL-INST, KANPUR	29	22	21	15	87
36	CENT-LEATHER-RES-INST, MADRAS	27	16	18	25	86
37	UNIV-RAJASTHAN, JAIPUR	23	21	20	16	80
38	INDIAN-INST-CHEM-TECHNOL, HYDERABAD	17	23	22	15	77
39	REG-RES-LAB, BHUBANESWAR	10	25	20	19	74
40	NATL-AEROSP-LABS, BANGALORE	20	12	23	17	72

Table 10 contd.

41	MAHARAJA-SAYAJIRAO-UNIV-BARODA, BARODA	12	16	22	21	71
42	SREE-CHITRA-TIRUNAL-INST-MED-SCI-&-TECHNOL, TRIVANDRUM	25	22	12	11	70
43	UNIV-MYSORE, MYSORE	12	21	14	18	65
44	KARNATAK-UNIV, DHARWAR	21	18	11	12	62
45	INST-PHYS, BHUBANESWAR	13	17	13	16	59
46	REG RES LAB, BHOPAL	12	19	13	13	57
47	PANJAB-UNIV, CHANDIGARH	12	16	18	7	53
48	SOLID-STATE-PHYS-LAB, DELHI	14	13	13	12	52
49	RANI-DURGAWATI-UNIV-JABALPUR, JABALPUR	11	10	20	9	50
50	MADURAI-KAMARAJ-UNIV, MADURAI	13	10	14	12	49
51	NAGPUR-UNIV, NAGPUR	10	15	10	14	49
52	RAMAN-RES-INST, BANGALORE	12	16	12	9	49
53	CTR-ADV-TECHNOL, INDORE	6	10	12	19	47
54	MAHATMA-GANDHI-UNIV, KOTTAYAM	2	17	11	16	46
55	GORAKHPUR-UNIV, GORAKHPUR	9	14	17	5	45
56	STRUCT-ENGN-RES-CTR, MADRAS	10	16	7	11	44
57	KAKATIYA-UNIV, WARANGAL	12	12	9	8	41
58	UNIV-ALLAHABAD, ALLAHABAD	7	7	16	11	41
59	MAHARSHI-DAYANAND-UNIV-ROHTAK, ROHTAK	11	8	11	10	40
60	BANGALORE-UNIV, BANGALORE	10	12	12	5	39
61	STEEL-AUTHOR-INDIA-LTD, RANCHI	10	13	9	7	39
62	ALIGARH-MUSLIM-UNIV, ALIGARH	5	6	15	12	38
63	JAWAHARLAL-NEHRU-UNIV, NEW-DELHI	9	5	10	14	38
64	INDIAN-SCH-MINES, DHANBAD	5	13	5	14	37
65	N-BENGAL-UNIV, DARJEELING	6	10	9	11	36
66	UNIV-JAMMU, JAMMU	6	5	9	16	36
67	BHARATHIAR-UNIV, COIMBATORE	4	8	7	15	34
68	ANDHRA-UNIV, VISHAKAPPATNAM	9	6	10	7	32
69	BARKATULLAH-UNIV, BHOPAL	12	10	5	5	32
70	CENT-ELECT-ENGN-RES-INST, PILANI	10	6	7	8	31
71	DEVI-AHILYA-UNIV, INDORE	5	10	5	11	31
72	KURUKSHETRA-UNIV, KURUKSHETRA	6	5	7	13	31
73	RAVENSHAW-COLL, CUTTACK	8	6	5	11	30
74	AGRA-UNIV, AGRA	7	3	9	10	29
75	TATA-IRON-&-STEEL-CO-LTD, JAMSHEDPUR	5	7	12	5	29
76	BERHAMPUR-UNIV, BERHAMPUR	8	10	6	4	28
77	INST-RADIO-PHYS-&-ELECTR, CALCUTTA	4	9	5	9	27
78	S-GUJARAT-UNIV, SURAT	4	12	4	7	27
79	BOSE-INST, CALCUTTA	6	6	6	8	26
80	HIMACHAL-PRADESH-UNIV, SIMLA	5	5	10	6	26
81	UNIV-BURDWAN, BURDWAN	8	4	5	9	26
82	INDIAN-PETROCHEM-CORP-LTD, BARODA	5	7	3	9	24
83	UNIV-KERALA, TRIVANDRUM	7	9	1	7	24
84	UTKAL-UNIV, BHUBANESWAR	7	4	4	9	24

Table 10 contd.

85	CENT-BLDG-RES-INST, ROORKEE	3	6	4	10	23
86	RAVISHANKAR-UNIV, RAIPUR	8	7	7	1	23
87	SAURASHTRA-UNIV, RAJKOT	7	3	8	5	23
88	VIKRAM-UNIV, UJJAIN	9	6	5	3	23
89	PUNJAB-AGR-UNIV, LUDHIANA	3	3	11	4	21
90	REG-RES-LAB, JORHAT	2	8	5	6	21
91	INDIAN-INST-PETR, DEHRA-DUN	4	6	5	5	20
92	KALYANI-UNIV, KALYANI	6	4	6	4	20
93	SRI-KRISHNADEVARAYA-UNIV, ANANTAPUR	1	4	11	4	20
94	JUTE TECHNOL RES LABS, CALCUTTA	4	2	8	5	19
95	CENT SALT & MARINE CHEM RES INST, BHAVNAGAR	2	4	6	5	17
96	JAMIA-MILLIA-ISLAMIA, NEW-DELHI	4	4	5	4	17
97	MANGALORE-UNIV, MANGALORE	4	5	4	4	17
98	NAGARJUNA-UNIV, NAGARJUNA-NAGAR	4	7	2	4	17
99	REG-ENGN-COLL, DURGAPUR	5	7	1	4	17
100	UNIV-JODHPUR, JODHPUR	3	9	5	0	17
101	BENGAL-ENGN-COLL, HOWRAH	2	8	4	2	16
102	BHARAT-HEAVY-ELECT-LTD, HYDERABAD	3	4	4	5	16
103	PONDICHERRY-UNIV, PONDICHERRY	6	4	2	4	16
104	SN-BOSE-NATL-CTR-BASIC-SCI, CALCUTTA	3	3	2	8	16
105	EXPLOS-RES-&-DEV-LAB, POONA	2	2	7	4	15
106	MANIPUR-UNIV, IMPHAL	4	6	3	2	15
107	NAVAL-CHEM-&-MET-LAB, BOMBAY	3	4	3	5	15
108	BHAGALPUR-UNIV, BHAGALPUR	5	4	3	2	14
109	INDIAN-JUTE-IND-RES-ASSOC, CALCUTTA	1	4	8	1	14
110	UNIV-CALICUT, CALICUT	8	1	4	1	14
111	DELHI-COLL-ENGN, DELHI	1	2	3	7	13
112	INST-MATH-SCI, MADRAS	2	6	2	3	13
113	INST-SCI, BOMBAY	3	1	4	5	13
114	NE-HILL-UNIV, SHILLONG	3	1	2	7	13
115	UNIV-LUCKNOW, LUCKNOW	1	6	1	5	13
116	BIRLA-INST-TECHNOL, RANCHI	2	6	1	3	12
117	CENT-POWER-RES-INST, BANGALORE	1	3	3	5	12
118	KARNATAKA-REG-ENGN-COLL, SURATHKAL	2	2	1	7	12
119	TATA-RES-DESIGN-DEV-CTR, POONA	6	4	0	2	12
120	THAPAR-INST-ENGN-&-TECHNOL, PATIALA	3	4	4	1	12
121	DR-HS-GOUR-UNIV, SAGAR	6	2	3	0	11
122	INDIAN-STAT-INST, CALCUTTA	3	3	3	2	11
123	MSG-COLL, MALEGAON	3	0	1	7	11
124	REG-ENGN-COLL, KURUKSHETRA	1	2	5	3	11
125	COTTON-TECHNOL-RES-LAB, BOMBAY	6	4	0	0	10
126	G-B-PANT-UNIV-AGR-&-TECHNOL, PANTNAGAR	2	2	4	2	10
127	INST-SCI, NAGPUR	1	4	1	4	10
128	MARATHWADA-UNIV, AURANGABAD	4	1	2	3	10
129	MOTILAL-NEHRU-REG-ENGN-COLL, ALLAHABAD	1	7	1	1	10

Table 10 contd.

130	SAMBALPUR-UNIV, SAMBALPUR	5	1	1	3	10
131	SUKHADIA-UNIV, UDAIPUR	2	3	3	2	10
132	GOA-UNIV, BAMBOLIM	4	0	2	3	9
133	ISRO, CTR SATELLITE, BANGALORE	0	3	4	2	9
134	NATL-ALUMINIUM-CO-LTD, DAMANJODI	6	0	1	2	9
135	RANCHI-UNIV, RANCHI	2	2	5	0	9
136	SRI-VENKATESWARA-UNIV, KURNOOL	0	1	3	5	9
137	ALCHEM-RES-CTR, THANA	0	4	2	2	8
138	AYYA-NADAR-JANAKI-AMMAL-COLL, SIVAKASI	4	4	0	0	8
139	BHAVNAGAR-UNIV, BHAVNAGAR	2	0	3	3	8
140	CENT-MECH-ENGN-RES-INST, DURGAPUR	1	4	3	0	8
141	GURU-NANAK-DEV-UNIV, AMRITSAR	0	1	3	4	8
142	HINDUSTAN-LEVER-RES-CTR, BOMBAY	0	1	2	5	8
143	JAWAHARLAL-NEHRU-CTR-ADV-SCI-RES, BANGALORE	0	2	5	1	8
144	MALAVIA-REG-ENGN-COLL, JAIPUR	2	3	1	2	8
145	REG-ENGN-COLL, TIRUCHCHIRAPPALLI	2	0	5	1	8
146	ST-JOHNS-COLL, AGRA	3	3	0	2	8
147	AHMEDABAD-TEXT-IND-RES-ASSOC, AHMEDABAD	3	0	3	1	7
148	ALL-INDIA-INST-MED-SCI, NEW-DELHI	2	2	2	1	7
149	BOMBAY-TEXT-RES-ASSOC, BOMBAY	1	2	2	2	7
150	CENT-INST-RES-COTTON-TECHNOL, BOMBAY	0	3	3	1	7
151	CENT-MIN-RES-STN, DHANBAD	1	0	0	6	7
152	DEF-MAT-&-STORES-RES-&-DEV, KANPUR	3	1	2	1	7
153	FOREST-RES-INST, DEHRA-DUN	0	2	4	1	7
154	GURU-NANAK-DEV-ENGN-COLL, AMRITSAR	4	3	0	0	7
155	PRESIDENCY-COLL, MADRAS	0	0	4	3	7
156	PSG-COLL-TECHNOL, COIMBATORE	2	2	1	2	7
157	REG-RES-LAB, JAMMU	3	2	1	1	7
158	SR-LAB-STUDIES-CRYSTALLIZAT-PHENOMENA, HANUMAKONDA	4	3	0	0	7
159	VARIABLE-ENERGY-CYCLOTRON-CTR, CALCUTTA	1	2	0	4	7
160	ALAGAPPA-UNIV, KARAIKKUDI	0	2	0	4	6
161	ANNAMALAI-UNIV, ANNAMALAINAGAR	0	5	1	0	6
162	BASIRHAT-COLL, PARGANAS	0	3	1	2	6
163	CENT-SCI-INSTRUMENTS-ORG, CHANDIGARH	1	2	0	3	6
164	DEPT-SCI-&-TECHNOL, NEW-DELHI	1	2	2	1	6
165	INDIAN-TEL-IND-LTD, BANGALORE	1	1	4	0	6
166	JIWAJI-UNIV, GWALIOR	2	1	2	1	6
167	MVAM, BHOPAL	0	0	6	0	6
168	NATL-COUNCIL-CEMENT-&-BLDG-MAT, NEW-DELHI	0	1	3	2	6
169	NATL-INST-OCEANOG, PANAJI	0	2	1	3	6
170	POSTGRAD-INST-MED-EDUC-&-RES, CHANDIGARH	1	0	3	2	6

Table 10 contd.

171	PRESIDENCY-COLL, CALCUTTA	1	1	1	3	6
172	PT-RAVISHANKAR-SHUKLA-UNIV, RAIPUR	0	0	0	6	6
173	REG-ENGN-COLL, ROURKELA	1	2	1	2	6
174	BHARATHIDASAN-UNIV, TIRUCHCHIRAPPALLI	0	1	0	4	5
175	CALICUT-ENGN-COLL, CALICUT	1	0	2	2	5
176	D-S-COLL, ALIGARH	0	0	4	1	5
177	DAV-POSTGRAD-COLL, DEHRA-DUN	1	3	0	1	5
178	DAYANAND-ANGLO-VEDIC-COLL, KANPUR	1	1	1	2	5
179	DEF-RES-&-DEV-ESTAB, GWALIOR	1	1	2	1	5
180	DIBRUGARH-UNIV, DIBRUGARH	4	0	0	1	5
181	INDIAN-OIL-CORP-LTD, FARIDABAD	0	1	1	3	5
182	INST-PLASMA-RES, AHMEDABAD	1	0	3	1	5
183	JK-IND-LTD, KANKROLI	2	2	1	0	5
184	MUKAND-LTD, BOMBAY	0	1	4	0	5
185	TECHNOL-INST-TEXT-&-SCI, BHIWANI	1	2	2	0	5
186	VISVA-BHARATI-UNIV, SANTINIKETAN	1	1	1	2	5
187	AERONAUT-DEV-AGCY, BANGALORE	0	3	0	1	4
188	AMERICAN-COLL, MADURAI	0	3	0	1	4
189	ASIAN-PAINTS-INDIA-LTD, BOMBAY	0	1	3	0	4
190	CENT-DRUG-RES-INST, LUCKNOW	2	2	0	0	4
191	CTR-EARTH-SCI-STUDIES, TRIVANDRUM	4	0	0	0	4
192	DEF-RES-&-DEV-LAB, HYDERABAD	0	0	1	3	4
193	DEF-SCI-CTR, DELHI	3	0	1	0	4
194	GARHWAL-UNIV, SRINAGAR (UP)	3	1	0	0	4
195	GAUHATI-UNIV, GAUHATI	1	1	2	0	4
196	GRAUER-&-WEIL-INDIA-LTD, BOMBAY	0	0	0	4	4
197	INST-ARMAMENT-TECHNOL, POONA	2	0	1	1	4
198	INST-MICROBIAL-TECHNOL, CHANDIGARH	0	0	3	1	4
199	KAMLA-NEHRU-INST-PHYS-&-SOCIAL-SCI, SULTANPUR	0	0	4	0	4
200	MEERUT-UNIV, MEERUT	0	1	1	2	4
201	NATL-COUNCIL-EDUC-RES-&-TRAINING, DELHI	2	2	0	0	4
202	NATL-INST-FOUNDRY-&-FORGE-TECHNOL, RANCHI	1	0	1	2	4
203	PUNJAB-ENGN-COLL, CHANDIGARH	2	0	1	1	4
204	RAJA-BALWANT-SINGH-COLL, AGRA	3	1	0	0	4
205	S-INDIA-TEXT-RES-ASSOC, COIMBATORE	0	2	1	1	4
206	STUP, BOMBAY	0	3	1	0	4
207	VISVESVARAYA-IRON-&-STEEL-LTD, BHADRAVATI	1	1	1	1	4
208	AGRA-COLL, AGRA	3	0	0	0	3
209	CENT-COLL, BANGALORE	1	0	1	1	3
210	CENT-FOOD-TECHNOL-RES-INST, MYSORE	0	1	2	0	3
211	CENT-RD-RES-INST, NEW-DELHI	1	0	2	0	3
212	CENT-SILK-BOARD, BANGALORE	0	2	0	1	3
213	COLL-MIL-ENGN, POONA	1	0	1	1	3
214	DAYANAND-BRIJENORA-SWARUP-PG-COLL, DEHRA-DUN	1	1	0	1	3
215	DEF LAB, JODHPUR	0	2	1	0	3

Table 10 contd.

216	DEF-ELECTR-APPLICAT-LAB, DEHRA-DUN	1	0	0	2	3
217	FT-GLOSTER-IND-LTD, HOWRAH	1	1	0	1	3
218	GOVT-AUTONOMOUS-SCI-COLL, JABALPUR	0	0	0	3	3
219	GOVT-SCI-COLL, GWALIOR	3	0	0	0	3
220	HARYANA-AGR-UNIV, HISAR	1	0	2	0	3
221	HINDUSTAN-COPPER-LTD, CALCUTTA	1	0	0	2	3
222	HOUSING-&-URBAN-DEV-CORP, NEW-DELHI	0	2	0	1	3
223	IDL-CHEM-LTD, BANGALORE	0	3	0	0	3
224	INDIAN-AGR-RES-INST, NEW-DELHI	0	1	2	0	3
225	J-N-VYAS-UNIV, JODHPUR	0	0	2	1	3
226	JAWAHARLAL-NEHRU-ALUMINIUM-RES-DEV-&-DESGN-CTR, NAGPUR	1	0	1	1	3
227	KERALA-FOREST-RES-INST, PEECHI	1	0	1	1	3
228	KUMAUN-UNIV, ALMORA	2	1	0	0	3
229	MET-&-ENGN-CONSULTANTS, RANCHI	0	1	1	1	3
230	NAT-RESOURCES-DEV-FDN, BHUBANESWAR	0	1	1	1	3
231	PACHHUNGA UNIV COLL, AIZAWL	0	0	3	0	3
232	PHYS-RES-LAB, AHMEDABAD	2	0	0	1	3
233	RUBBER-RES-INST-INDIA, KOTTAYAM	0	0	1	2	3
234	SIVANTHI-ADITANAR-COLL, NAGERCOIL	0	3	0	0	3
235	SJ-COLL-ENGN, MYSORE	2	0	0	1	3
236	TNB-COLL, BHAGALPUR	1	0	2	0	3
237	VECTOR CONTROL RES CTR, PONDICHERRY	0	0	1	2	3
238	VICTORIA-JUBILEE-TECH-INST, BOMBAY	0	2	0	1	3
239	ADV-NUMER-RES-&-ANAL-GRP, HYDERABAD	2	0	0	0	2
240	ATOM MINERALS DIV, NEW-DELHI	0	0	1	1	2
241	BANGABASI-MORNING-COLL, CALCUTTA	0	1	0	1	2
242	BENGAL-WATERPROOF-LTD, CALCUTTA	0	0	0	2	2
243	BHARAT-HEAVY-ELECT-LTD, BHOPAL	1	1	0	0	2
244	BHARAT-HEAVY-ELECT-LTD, TIRUCHCHIRAPPALLI	0	1	0	1	2
245	BISHOP-HEBER-COLL, TIRUCHCHIRAPPALLI	0	0	1	1	2
246	CENT GLASS & CERAM RES INST, AHMEDABAD	1	0	0	1	2
247	CENT-ARID-ZONE-RES-INST, JODHPUR	0	1	0	1	2
248	CENT-FUEL-RES-INST, DHANBAD	0	0	1	1	2
249	CTR SOLAR ENERGY, NEW-DELHI	0	0	0	2	2
250	CTR-CELLULAR-&-MOLEC-BIOL, HYDERABAD	0	1	1	0	2
251	CTR-LIQUID-CRYSTAL-RES, BANGALORE	0	0	1	1	2
252	DALMIA-INST-SCI-&-IND-RES, RAJGANGPUR	1	1	0	0	2
253	DEPT-CHEM-TECHNOL, BOMBAY	0	0	0	2	2
254	DURGAPUR-STEEL-PLANT, DURGAPUR	1	1	0	0	2
255	ELECTRONICS-CORP-INDIA-LTD, HYDERABAD	0	0	0	2	2
256	FORBES-GOKAK-&-CO-LTD, BOMBAY	0	0	0	2	2
257	GAYA-COLL, GAYA	0	0	1	1	2
258	GEOL-SURVEY-INDIA, SHILLONG	1	0	1	0	2
259	GOVT-AUTONOMOUS-COLL, KOTA	0	0	0	2	2

Table 10 contd.

260	GOVT-POLYTECH-WARANGAL, WARANGAL	2	0	0	0	2
261	GOVT-POSTGRAD-COLL, SHIVPURI	0	0	1	1	2
262	GOVT-VIDARBHA-MAHAVIDYALAYA, AMRAVATI	0	0	0	2	2
263	GOVT-WEST-BENGAL, JALPAIGURI	0	2	0	0	2
264	GULBARGA-UNIV, GULBARGA	0	0	1	1	2
265	HINDUSTAN-PHOTO-FILMS-MFG-CO-LTD, UDHAGAMANDALAM	0	1	1	0	2
266	HINDUSTAN-ZINC-LTD, UDAIPUR	0	0	1	1	2
267	HMT-LTD, HYDERABAD	1	0	1	0	2
268	HOPEL, RES HOME, TUTICORIN	0	0	0	2	2
269	INDIAN-LAC-RES-INST, RANCHI	0	1	0	1	2
270	INST-PAPER-TECHNOL, SAHARANPUR	0	0	1	1	2
271	INT-CTR-GENET-ENGN-&-BIOTECHNOL, NEW-DELHI	0	0	2	0	2
272	JAWAHARLAL-NEHRU-TECHNOL-UNIV, HYDERABAD	0	0	1	1	2
273	KN-GOVT-POST-GRAD-COLL, VARANASI	0	0	1	1	2
274	KS-SAKET-POST-GRAD-COLL, FAIZABAD	0	0	0	2	2
275	LAJPAT-RAI-POSTGRAD-COLL, SAHIBABAD	1	0	0	1	2
276	M-S-J-COLL, BHARATPUR	0	0	1	1	2
277	MA-COLL-TECHNOL, BHOPAL	0	1	0	1	2
278	MAHARASHTRA-ASSOC-CULT-SCI, POONA	0	0	0	2	2
279	MAN-MADE-TEXT-RES-ASSOC, SURAT	0	0	1	1	2
280	MM-COLL, KHEKRA	0	2	0	0	2
281	MN-DASTUR-&-CO-LTD, CALCUTTA	0	0	2	0	2
282	MS-CR-NARAYANA-RAO-ARCHITECTS-&-ENGINEERS, MADRAS	0	2	0	0	2
283	NARMADA-HYDRO-POWER-PROJECT, AHMEDABAD	1	1	0	0	2
284	NATL-INST-IMMUNOL, NEW-DELHI	1	0	1	0	2
285	NEW-COLL, KOLHAPUR	1	0	1	0	2
286	NSS-COLL-ENGN, PALGHAT	0	1	1	0	2
287	ORISSA-LTD, BHUBANESWAR	0	1	0	1	2
288	PULP-&-PAPER-RES-INST, JAYKAYPUR	0	1	0	1	2
289	PUNJABI-UNIV, PATIALA	0	0	0	2	2
290	RAMAKRISHNA-MISSION-VIVEKANANDA-COLL, MADRAS	0	2	0	0	2
291	REG-ENGN-COLL, HAMIRPUR	1	1	0	0	2
292	RV-COLL-ENGN, BANGALORE	0	0	1	1	2
293	SREE-DEVI-KUMARI-WOMENS-COLL, KUZHITHURAI	0	0	2	0	2
294	SRI-PARAMAKALYANI-COLL, ALWARKURICHI	0	0	1	1	2
295	SSD-COLL, CUTTACK	0	2	0	0	2
296	ST-ANDREWS-COLL, GORAKHPUR	1	0	0	1	2
297	ST-PHILOMENA-COLL, PUTTUR	0	0	2	0	2
298	TERMINAL-BALLIST-RES-LAB, CHANDIGARH	0	1	0	1	2
299	TIFR-CTR, BANGALORE	0	0	0	2	2
300	UNIV-PATNA, PATNA	1	1	0	0	2

Table 10 contd.

301	UNIV-VISVESVARAYA, COLL ENGN, BANGALORE	0	0	1	1	2
302	VSSD-COLL, KANPUR	1	1	0	0	2
303	WADIA-INST-HIMALAYAN-GEOL, DEHRA-DUN	1	0	0	1	2
304	WARANA-MAHAVIDYALAYA, KOLHAPUR	1	1	0	0	2
305	WARANANAGAR-COLL, WARANANAGAR	1	0	1	0	2
306	A-C-COLL, JALPAIGURI	0	0	1	0	1
307	ACHARYA-B-N-SEAL-COLL, COOCH-BEHAR	0	1	0	0	1
308	ADITANAR-COLL, TIRUCHENDUR	1	0	0	0	1
309	AEROSP-SURVEILLANCE-WARNING-&-CONTROL-PROJECT-OFF, BANGALORE	0	0	1	0	1
310	ALAGAPPA-COLL-TECHNOL, MADRAS	1	0	0	0	1
311	ALIPURDUAR-COLL, JALPAIGURI	0	1	0	0	1
312	ANDHRA-PRADESH-PAPER-MILLS-LTD, RAJAHMUNDRY	0	1	0	0	1
313	ARAI, POONA	0	0	1	0	1
314	ARCHAEOL-SURVEY-INDIA, DEHRA-DUN	0	0	0	1	1
315	ASC-COLL, KIRLOSKARWADI	0	0	1	0	1
316	ASSOCIATED-CEMENT-COS-LTD, THANA	0	0	0	1	1
317	ATOM MINERALS DIV, HYDERABAD	0	0	1	0	1
318	AV-COLL-ARTS-SCI-&-COMMERCE, HYDERABAD	0	0	0	1	1
319	AVADH-UNIV, FAIZABAD	0	0	1	0	1
320	BALMER-LAWRIE-&-CO-LTD, CALCUTTA	0	0	1	0	1
321	BARODA-RAYON-CORP-LTD, SURAT	0	0	1	0	1
322	BATA-INDIA-LTD, BATANAGAR	0	0	0	1	1
323	BC-ROY-POSTGRAD-INST-BASIC-MED-SCI, CALCUTTA	0	0	1	0	1
324	BEHALA-COLL, PARNASREE	0	1	0	0	1
325	BELOIT-WALMSLEY-LTD, MADRAS	0	0	0	1	1
326	BHABHA-INST, CALCUTTA	0	1	0	0	1
327	BHARAT-ALUMINIUM-CO-LTD, KORBA	0	0	0	1	1
328	BHARAT-HEAVY-PLATE-&-VESSELS-LTD, VISAKHAPATNAM	1	0	0	0	1
329	BHARATH-HEAVY-ELECT-LTD, BANGALORE	1	0	0	0	1
330	BHILAI-INST-TECHNOL, DURG	0	0	1	0	1
331	BHILAI-STEEL-PLANT, BHILAI	0	1	0	0	1
332	BIRLA-COLL, KALYANI	0	1	0	0	1
333	BIRLA-RES-INST-APPL-SCI, NAGDA	0	1	0	0	1
334	BMS-COLL-ENGN, BANGALORE	0	0	1	0	1
335	BRAKES-INDIA-LTD, MADRAS	0	0	0	1	1
336	BRINDAVAN-SOC, THANA	0	1	0	0	1
337	C-R-NARAYANA-RAO-ARCHITECTS-&-ENGRS, MADRAS	0	0	1	0	1
338	CARBORUNDUM-UNIVERSAL-LTD, MADRAS	0	0	1	0	1
339	CBM-COLL, COIMBATORE	0	1	0	0	1
340	CECRI UNIT, MANDAPAM	0	1	0	0	1
341	CECRI, MADRAS UNIT, MADRAS	0	1	0	0	1
342	CENT SILK TECHNOL RES INST, BANGALORE	0	1	0	0	1
343	CENT-INST-PLAST-ENGN-&-TECHNOL, MADRAS	1	0	0	0	1
344	CENT-PULP-&-PAPER-RES-INST, SAHARANPUR	1	0	0	0	1

Table 10 contd.

345	CENT-SCI-INSTRUMENTS-ORG, NEW-DELHI	0	0	1	0	1
346	CENT-SERICULTURAL-RES-&-TRAINING-INST, BERHAMPUR	0	0	0	1	1
347	CENT-SHEEP-&-WOOL-RES-INST, AVIKANAGAR	0	1	0	0	1
348	CENT-SILK-TECHNOL-RES-INST, BANGALORE	0	0	1	0	1
349	CENT-SOIL-&-MAT-RES-STN, NEW-DELHI	0	0	0	1	1
350	CHEM & MET LAB, BOMBAY	0	0	0	1	1
351	CHITRAKUT-GRAMODAYA-UNIV, CHITRAKUT	0	0	0	1	1
352	CHM-COLL, ULHASNAGAR	1	0	0	0	1
353	CHOCHIN-REFINERIES-LTD, COCHIN	1	0	0	0	1
354	COLL-BASIC-SCI-&-HUMANITIES, PANTNAGAR	1	0	0	0	1
355	COLL-ENGN, MADRAS	0	1	0	0	1
356	COLL-TEXT-TECHNOL, HOOGHLY	0	1	0	0	1
357	CSMRS, NEW-DELHI	0	0	0	1	1
358	DAHIWADI-COLL, DAHIWADI	0	0	1	0	1
359	DAV-COLL, MUZAFFARNAGAR	0	0	0	1	1
360	DAYALBAGH-EDUC-INST, AGRA	1	0	0	0	1
361	DB-COLL, MADHUBANI	0	0	1	0	1
362	DEF-FOOD-RES-LAB, MYSORE	0	1	0	0	1
363	DEF-RES-&-DEV-ORG, DELHI	0	1	0	0	1
364	DEOGIRI-COLL, AURANGABAD	1	0	0	0	1
365	DEPT-ENVIRON, NEW-DELHI	0	1	0	0	1
366	DURGAPUR-GOVT-COLL, DURGAPUR	0	0	0	1	1
367	DURGAPUR-PROJECTS-LTD, DURGAPUR	0	0	0	1	1
368	ELECT-RES-&-DEV-ASSOC, VADODARA	0	0	1	0	1
369	ELICO-PVT-LTD, HYDERABAD	0	0	1	0	1
370	ENGINEERS-INDIA-LTD, NEW-DELHI	0	0	0	1	1
371	ENGN-COLL, KOTA	0	0	0	1	1
372	ESSAR-GUJARAT-LTD, AHMEDABAD	0	0	1	0	1
373	EWAC-ALLOYS-LTD, BOMBAY	0	0	1	0	1
374	FREDRIC-INST-PLANT-PROTECT-&-TOXICOL, MADRAS	0	0	1	0	1
375	GANDHIGRAM-RURAL-INST, GANDHIGRAM	0	0	0	1	1
376	GANGADHAR-MEHER-COLL, SAMBALPUR	1	0	0	0	1
377	GANGAPURI-SIKSHA-SADAN, CALCUTTA	0	0	0	1	1
378	GAS-TURBINE-RES-ESTAB, BANGALORE	0	0	0	1	1
379	GB-PANT-UNIV, PANTNAGAR	0	0	1	0	1
380	GEOL-SURVEY-INDIA, JAIPUR	0	0	0	1	1
381	GEOL-SURVEY-INDIA, MADRAS	0	0	0	1	1
382	GM-COLL, SAMBALPUR	0	0	0	1	1
383	GOVT-ARTS-&-SCI-COLL, RATLAM	0	0	1	0	1
384	GOVT-ARTS-COLL, MADRAS	0	0	0	1	1
385	GOVT-ARTS-COLL, TRIVANDRUM	0	0	0	1	1
386	GOVT-COLL, RAMPURA	0	0	1	0	1
387	GOVT-COLL-ARTS-&-SCI, KAMA-REDDY	0	0	1	0	1
388	GOVT-COLL-TECHNOL, COIMBATORE	0	0	0	1	1
389	GOVT-GIRLS-POSTGRAD-COLL, INDORE	0	0	1	0	1

Table 10 contd.

390	GOVT-MIOVAM, BHOPAL	0	0	0	1	1
391	GOVT-MOTILAL-VIGYAN-ADARSH-MAHAVIDYALAY, BHOPAL	0	0	0	1	1
392	GOVT-PG-COLL, SAWAIMADHOPUR	1	0	0	0	1
393	GOVT-POSTGRAD-COLL, NEEMUCH	0	0	1	0	1
394	GPR-ENGN-COLL, KURNOOL	0	0	0	1	1
395	GRINDWELL-NORTON-LTD, BANGALORE	0	0	1	0	1
396	GT-GLASS-WORKS, FIROZABAD	0	1	0	0	1
397	GUEST-KEEN-WILLIAMS-LTD, CALCUTTA	0	1	0	0	1
398	GUJARAT-ALKALIES-&-CHEM-LTD, BARODA	0	1	0	0	1
399	GUJARAT-STATE-FERTILIZERS-CO-LTD, VADODARA	0	1	0	0	1
400	HALLIKOTE-COLL, BERHAMPUR	1	0	0	0	1
401	HARDCASTLE-&-WAUD-MFG-CO-LTD, BOMBAY	0	1	0	0	1
402	HINDALCO-IND-LTD, RENUKOOT	0	0	1	0	1
403	HINDU-COLL, MORADABAD	1	0	0	0	1
404	HINDUSTAN-AERONAUT-LTD, BANGALORE	0	0	1	0	1
405	HINDUSTAN-CONSTRUCT-CO-LTD, BOMBAY	1	0	0	0	1
406	HINDUSTHAN-MOTORS, HOWRAH	0	1	0	0	1
407	HOOGHLY MOHOSIN COLL, CALCUTTA	1	0	0	0	1
408	IBP-CO-LTD, RANCHI	0	0	0	1	1
409	ICI-INDIA-LTD, HOOGHLY	0	0	1	0	1
410	ICI-INDIA-LTD, THANA	0	0	0	1	1
411	INBRI, BANGALORE	0	1	0	0	1
412	IND-PROMOT-&-INVESTMENT-CORP-ORISSA-LTD, BHUBANESWAR	0	1	0	0	1
413	IND-TOXICOL-RES-CTR, LUCKNOW	1	0	0	0	1
414	INDIAN-ALUM-CO-LTD, CALCUTTA	0	0	1	0	1
415	INDIAN-BUR-MINES, NAGPUR	0	0	0	1	1
416	INDIAN-INST-ASTROPHYS, BANGALORE	0	0	0	1	1
417	INDIAN-INST-CHEM-BIOL, CALCUTTA	1	0	0	0	1
418	INDIAN-INST-PHYS, BANGALORE	0	0	0	1	1
419	INDIAN-PLASMA-SYST-LTD, GUJARAT, INDIA	0	0	0	1	1
420	INDIAN-PLYWOOD-IND, RES INST, BANGALORE	0	0	1	0	1
421	INDIAN-VET-RES-INST, IZATNAGAR	0	0	0	1	1
422	INDO-RAMA-SYNTHET-LTD, INDORE	0	0	1	0	1
423	INST-ENGN-TECHNOL, LUCKNOW	0	0	1	0	1
424	INT-JUTE-TECHNOL, CALCUTTA	0	0	0	1	1
425	JALAKALYAN-COOP-HSG-SOC, BOMBAY	0	1	0	0	1
426	JB-COLL, JORHAT	0	1	0	0	1
427	JINDAL-STRIPS-LTD, HISAR	0	1	0	0	1
428	KANPUR-UNIV, KANPUR	1	0	0	0	1
429	KEVIDA-CONSULTANCY-SERV, POONA	1	0	0	0	1
430	LARSEN & TOUBRO LTD, BOMBAY	0	0	1	0	1

Table 10 contd.

431	LD-COLL-ENGN, AHMEDABAD	1	0	0	0	1
432	LUCAS-TVS-LTD, MADRAS	0	0	0	1	1
433	MADRAS-VET-COLL, MADRAS	1	0	0	0	1
434	MAHARAJA-POST-GRAD-COLL, ARRAH	0	0	0	1	1
435	MALNAD-COLL-ENGN, HASSAN	0	0	1	0	1
436	MANIPAL-INST-TECHNOL, MANIPAL	0	0	0	1	1
437	MAULANA-AZAD-COLL-TECHNOL, BHOPAL	0	0	0	1	1
438	MEHTA-RES-INST-MATH-&-MATH-PHYS, ALLAHABAD	0	0	1	0	1
439	MISHRA-DHATU-NIGAM-LTD, HYDERABAD	1	0	0	0	1
440	MIV-GOVT-COLL, BHILWARA	1	0	0	0	1
441	ML-SHAH-&-CO-MACHINERY-PVT-LTD, BOMBAY	0	0	1	0	1
442	MVM-BHOPAL, BHOPAL	0	1	0	0	1
443	NARMADA-COLL-SCI-TECHNOL-&-COMMERCE, JHADESWAR	0	0	0	1	1
444	NATL-COLL, TIRUCHCHIRAPPALLI	0	0	0	1	1
445	NATL-ENVIRONM-ENGN-RES-INST, NAGPUR	1	0	0	0	1
446	NATL-GEOPHYS-RES-INST, HYDERABAD	0	0	0	1	1
447	NATL-MINERAL-DEV-CORP-LTD, HYDERABAD	0	0	1	0	1
448	NATL-RES-LAB-CONSERVAT-CULTURAL-PROPERTY,LUCKNOW	1	0	0	0	1
449	NAVAL-PHYS-&-OCEANOG-LAB, KOCHI	0	1	0	0	1
450	NBKR-INST-SCI-&-TECHNOL, VIJAYANAGAR	0	0	1	0	1
451	NE-REG-INST-SCI-&-TECHNOL, NIRJULI	0	0	1	0	1
452	NIZAM-COLL, HYDERABAD	0	0	0	1	1
453	NMAM INST TECHNOL, NITTE	0	0	0	1	1
454	NUCL-SCI-CTR, NEW-DELHI	0	0	0	1	1
455	OIL-&-NAT-GAS-COMMISS, BOMBAY	0	0	1	0	1
456	PERD-CTR, AHMEDABAD	0	1	0	0	1
457	PESTICIDE-DEV-PROGRAMME-INDIA, GURGAON	1	0	0	0	1
458	PIDILITE-IND-LTD, BOMBAY	0	0	0	1	1
459	PLASMATHERM-SYST-PVT-LTD, AHMEDABAD	0	0	1	0	1
460	POLYBOND-INDIA-PRIVATE-LTD, POONA	0	0	0	1	1
461	POLYMER-CONSULTANTS, KOTTAYAM	0	1	0	0	1
462	PONDICHERRY-ENGN-COLL, PONDICHERRY	1	0	0	0	1
463	POSTGRAD-CTR, CHAIBASA	0	0	1	0	1
464	PROF-SD-CHATTERJEES-RES-LAB, CALCUTTA	0	1	0	0	1
465	PROJECTS-&-DEV-INDIA-LTD, DHANBAD	1	0	0	0	1
466	PSG-AUTONOMOUS-COLL-ARTS-&-SCI, COIMBATORE	1	0	0	0	1
467	PWD, BOMBAY	0	0	1	0	1
468	QULI-QUTUB-SHAH-GOVT-POLYTECH, HYDERABAD	1	0	0	0	1
469	RAILWAY-DEGREE-COLL, SECUNDERABAD	1	0	0	0	1
470	RANBAXY-LABS-LTD, NEW-DELHI	0	0	1	0	1
471	RBS-COLL, AGRA	0	0	0	1	1
472	REG-COLL-EDUC, BHOPAL	0	0	0	1	1
473	REG-DIRECTORATE-NATL-PROD-COUNCIL, KANPUR	0	0	0	1	1
474	REG-INST-TECHNOL, JAMSHEDPUR	0	0	1	0	1
475	REG-RES-LAB, PALAMPUR	0	1	0	0	1

Table 10 contd.

476	RES-OASIS, INDORE	1	0	0	0	1
477	RPTP-SCI-COLL, VALLABH-VIDYANAGAR	0	1	0	0	1
478	RR-PG-AUTONOMOUS-COLL, ALWAR	0	0	0	1	1
479	RUBBER-BOARD, KOTTAYAM	0	0	0	1	1
480	S-M-COLL, BHAGALPUR	0	0	1	0	1
481	SABOUR-COLL, BHAGALPUR	1	0	0	0	1
482	SAIL-BHILAI-IRON-&-STEELWORKS, BHILAI	0	0	1	0	1
483	SANATAN-DHARMA-COLL, AMBALA	1	0	0	0	1
484	SARDAR-VALLABHBHAI-REG-COLL-ENGN-&-TECHNOL, SURAT	0	0	0	1	1
485	SARR-COLL, DEHRA-DUN	0	0	1	0	1
486	SCOTTISH-CHURCH-COLL, CALCUTTA	0	0	1	0	1
487	SEMICOND-COMPLEX-LTD, CHANDIGARH	1	0	0	0	1
488	SERAMPORE-COLL, SERAMPORE	1	0	0	0	1
489	SHARMA-INST, SIMLA	0	0	1	0	1
490	SHIRIRAM-INST-IND-RES, DELHI	0	0	0	1	1
491	SHRI-GS-INST-TECHNOL-&-SCI, INDORE	0	0	0	1	1
492	SHRI-VARSHNEY-COLL, ALIGARH	0	1	0	0	1
493	SHRIRAM-INST-IND-RES, DELHI	1	0	0	0	1
494	SMD-COLL, PATNA	0	0	0	1	1
495	SOC-APPL-MICROWAVE-ELECTR-ENGN-&-RES, BOMBAY	0	0	0	1	1
496	SPIC-SCI-FDN, MADRAS	0	0	1	0	1
497	SPRPG-COLL, JAUNPUR	0	0	0	1	1
498	SRF-LTD, MADRAS	0	0	1	0	1
499	SRI-JAYADEV-COLL-EDUC-&-TECHNOL-NAHARKANTA, PURI	0	0	1	0	1
500	SRI-SRNM-COLL, SATTUR	0	0	0	1	1
501	SRI-VENKATESWARA-UNIV, CUDDAPAH	1	0	0	0	1
502	SRI-VENKATESWARA-UNIV, POSTGRAD CTR, NELLORE	0	0	0	1	1
503	ST-JOSEPHS-COLL, TIRUCHCHIRAPPALLI	0	0	1	0	1
504	ST-LONGOWAL-INST-ENGN-&-TECHNOL, SANGRUR	0	0	0	1	1
505	ST-PAULS-CM-COLL, CALCUTTA	0	1	0	0	1
506	ST-XAVIERS-COLL, BOMBAY	1	0	0	0	1
507	ST-XAVIERS-COLL, TRIVANDRUM	1	0	0	0	1
508	SUNANDA-SPECIAL-COATINGS-PVT-LTD, BOMBAY	0	0	1	0	1
509	SUPERTECH-IND-&-MANAGE-CONSULTANTS-PVT-LTD, HYDERABAD	0	0	0	1	1
510	SV-COLL, ALIGARH	0	0	1	0	1
511	SVH-COLL-ENGN, MACHILIPATNAM	0	0	1	0	1
512	SVP-COLL, BHABUA	0	1	0	0	1
513	TAMIL-NADU-NEWSPRINT-&-PAPERS-LTD, KAGITHAPURAM	0	0	0	1	1
514	TD-MED-COLL, ALLEPPEY	1	0	0	0	1
515	TECH-TEACHERS-TRAINING-INST, CHANDIGARH	0	0	0	1	1
516	THADOMAL-SHAHANI-ENGN-COLL, BOMBAY	0	0	1	0	1
517	THIAGARAJAR-COLL-ENGN, MADURAI	1	0	0	0	1
518	TRIPURA-UNIV, AGARTALA	0	0	1	0	1
519	UNIV-AGR-SCI, CENT COLL, BANGALORE	0	0	0	1	1

Table 10 contd.

520	UNIV-BANASTHALI, BANASTHALI	0	0	1	0	1
521	UNIV-COLL-ROHTAK, ROHTAK	0	0	1	0	1
522	UNIV-COLL-TECHOL, HYDERABAD	1	0	0	0	1
523	UNIV-GRANTS-COMMISS, NEW-DELHI	1	0	0	0	1
524	VAM-RES-CTR, MORADABAD	0	1	0	0	1
525	VASHI-COMPLEX, BOMBAY	0	0	1	0	1
526	VCM-POLYURETHANES-PVT-LTD, BOMBAY	0	0	1	0	1
527	VIDARBHA-MAHAVIDYALAYA, AMRAVATI	0	0	1	0	1
528	VIDYASAGAR-EVENING-COLL, CALCUTTA	0	0	0	1	1
529	VIDYASAGAR-UNIV, MIDNAPORE	0	0	1	0	1
530	VISVESVARAYA-REG-COLL-ENGN, NAGPUR	0	1	0	0	1
531	VIVEKANAND-COLL, KOLHAPUR	0	0	1	0	1
532	VP&RPTP-SCI-COLL, VALLABH-VIDYANAGAR	0	0	1	0	1
533	WALCHAND-INST-TECHNOL, SOLAPUR	1	0	0	0	1
534	WATER-RES-CTR, MEDMENHAM	1	0	0	0	1
	Total	2710	2961	3205	3208	12084

Table 11: Contributions made by different types of organizations as seen from *MSCI* 1991-1994

	1991	1992	1993	1994	Total
Academic	1838	1962	2093	2077	7970
Research	700	780	852	880	3212
Central Ministries	133	161	199	197	690
Private	29	50	50	41	170
State Government	5	2	2	1	10
International	-	-	2	-	2
Others	5	6	7	2	30
Academic					
University	*1703*	*1829*	*1956*	*1921*	*7409*
General	1669	1800	1922	1900	7291
Medical	28	24	17	14	83
Agriculture	6	5	17	7	35
College	*134*	*133*	*137*	*156*	*560*
General	69	69	77	96	311
Engineering	63	64	59	60	246
Medical	2	-	1	-	3
Polytechnic	1	-	-	-	1
Research					
CSIR	327	408	435	436	1606
DAE	284	290	328	359	1261
DRDO	78	68	73	74	293
ICAR	11	14	15	9	49
ICMR	-	-	1	2	3
Ministries					
Sci & Technol	67	79	110	110	366
Space	21	30	31	25	107
Steel & Mines	15	16	15	16	62
Industry	13	15	11	18	57
Textiles	5	8	15	7	35
Energy	1	3	3	5	12
Planning	3	3	3	2	11
Human Resour Dev	4	2	1	3	10
Petroleum	1	1	3	4	9
Communications	1	1	4	-	6
Commerce	-	-	1	2	3
Urban Dev	-	2	-	1	3
Defence	1	-	1	-	2
Environ & Forest	-	1	1	-	2
Non-Conven Energy	-	-	-	2	2
Agriculture	1	-	-	-	1
Electronics	-	-	-	1	1
Water Resource	-	-	-	1	1

Table 12: India's contribution to the world literature of materials science as seen from *MSCI* 1991-1994 categorised by city/town

Sl No.	City name	Number of papers				
		1991	1992	1993	1994	Total
1	BOMBAY	310	313	363	371	1357
2	BANGALORE	250	294	319	315	1178
3	DELHI	233	245	270	276	1024
4	MADRAS	230	214	306	262	1012
5	CALCUTTA	178	213	263	275	929
6	KHARAGPUR	134	177	174	176	661
7	HYDERABAD	141	130	135	165	571
8	KANPUR	127	117	123	115	482
9	PUNE	97	110	101	103	411
10	VARANASI	93	96	92	83	364
11	THIRUVANANTHAPURAM	86	88	72	82	328
12	KALPAKKAM	35	61	65	57	218
13	KARAIKUDI	29	36	64	56	185
14	ROORKEE	39	40	35	52	166
15	BHUBANESWAR	30	49	38	46	163
16	TIRUPATI	51	48	34	22	155
17	JAMSHEDPUR	20	36	42	29	127
18	VALLABH VIDYANAGAR	24	33	29	31	117
19	BHOPAL	25	32	24	23	104
20	KOLHAPUR	28	14	27	30	99
21	COCHIN	23	29	27	19	98
22	VADODARA	17	25	26	30	98
23	JAIPUR	25	24	21	19	89
24	INDORE	12	20	19	31	82
25	CHANDIGARH	17	19	25	16	77
26	MYSORE	14	23	16	19	72
27	RANCHI	15	22	17	15	69
28	NAGPUR	13	20	12	20	65
29	DHARWAR	21	18	11	12	62
30	MADURAI	14	13	14	13	54
31	JABALPUR	11	10	20	12	53
32	ALLAHABAD	8	14	18	12	52
33	AHMEDABAD	13	14	12	12	51
34	KOTTAYAM	2	18	12	19	51
35	COIMBATORE	7	13	9	19	48
36	DHANBAD	7	13	6	21	47
37	GORAKHPUR	10	14	17	6	47
38	AGRA	17	7	9	13	46
39	ALIGARH	5	7	20	13	45
40	WARANGAL	14	12	9	8	43

Table 12 contd.

41	DEHRA DUN	8	12	10	12	42
42	JAMMU TAWI	9	6	10	17	42
43	KURUKSHETRA	7	7	12	16	42
44	ROHTAK	11	8	12	10	41
45	DARJEELING	6	10	9	11	36
46	CUTTACK	8	8	5	11	32
47	PILANI	10	6	7	8	31
48	VISHAKAPATNAM	10	5	10	6	31
49	DURGAPUR	7	13	4	6	30
50	BERHAMPUR	9	10	6	4	29
51	RAIPUR	8	7	7	7	29
52	SHIMLA	5	5	11	6	27
53	BURDWAN	8	4	5	9	26
54	BHAVNAGAR	4	4	9	8	25
55	JODHPUR	3	12	8	2	25
56	RAJKOT	7	3	8	5	23
57	UJJAIN	9	6	5	3	23
58	JORHAT	2	9	5	6	22
59	KALYANI	6	5	6	4	21
60	LUDHIANA	3	3	11	4	21
61	ANANTHAPUR	1	4	11	4	20
62	HOWRAH	3	10	4	3	20
63	LUCKNOW	5	8	2	5	20
64	PONDICHERRY	7	4	3	6	20
65	BHAGALPUR	7	4	6	2	19
66	CALICUT	9	1	6	3	19
67	TIRUCHIRAPPALLI	2	2	7	8	19
68	MANGALORE	4	5	4	4	17
69	NAGARJUNA NAGAR	4	7	2	4	17
70	AMRITSAR	4	4	3	4	15
71	IMPHAL	4	6	3	2	15
72	SHILLONG	4	1	3	7	15
73	GWALIOR	6	2	4	2	14
74	PATIALA	3	4	4	3	14
75	MALEGAON	3	1	1	7	12
76	PANTNAGAR	3	2	5	2	12
77	SAMBALPUR	6	1	1	4	12
78	SURATKAL	2	2	1	7	12
79	UDAIPUR	2	3	4	3	12
80	AURANGABAD	5	1	2	3	11
81	SAGAR	6	2	3	0	11
82	THANE	0	5	2	4	11
83	KURNOOL	0	1	3	6	10
84	BAMBOLIM	4	0	2	3	9
85	DAMANJODI	6	0	1	2	9

Table 12 contd.

86	SIVAKASI	4	4	0	0	8
87	HANUMAKONDA	4	3	0	0	7
88	ANNAMALAINAGAR	0	5	1	0	6
89	24-PARGANAS	0	3	1	2	6
90	PANAJI	0	2	1	3	6
91	ROURKELA	1	2	1	2	6
92	BHIWANI	1	2	2	0	5
93	DIBRUGARH	4	0	0	1	5
94	FARIDABAD	0	1	1	3	5
95	KANKROLI	2	2	1	0	5
96	SHANTINIKETAN	1	1	1	2	5
97	BHADRAVATI	1	1	1	1	4
98	GUWAHATI	1	1	2	0	4
99	HISAR	1	1	2	0	4
100	JALAPAIGURI	0	3	1	0	4
101	MEERUT	0	1	1	2	4
102	SRINAGAR (UP)	3	1	0	0	4
103	SURAT	0	0	2	2	4
104	SULTANPUR	0	0	4	0	4
105	AIZAWL	0	0	3	0	3
106	ALMORA	2	1	0	0	3
107	AMRAVATI	0	0	1	2	3
108	FAIZABAD	0	0	1	2	3
109	GHAZIABAD	0	0	1	2	3
110	KOTA	0	0	0	3	3
111	NAGERCOIL	0	3	0	0	3
112	PATNA	1	1	0	1	3
113	PEECHI	1	0	1	1	3
114	SAHARANPUR	1	0	1	1	3
115	ALWARKURUCHI	0	0	1	1	2
116	BHILAI	0	1	1	0	2
117	BHARATPUR	0	0	1	1	2
118	GAYA	0	0	1	1	2
119	GULBARGA	0	0	1	1	2
120	HAMIRPUR	1	1	0	0	2
121	HOOGHLY	0	1	1	0	2
122	JAYKAYPUR	0	1	0	1	2
123	KHEKRA	0	2	0	0	2
124	KUZHITHURAI	0	0	2	0	2
125	MORADABAD	1	1	0	0	2
126	NUZVID	0	1	0	1	2
127	PALGHAT	0	1	1	0	2
128	PUTTUR	0	0	2	0	2
129	RAJGANPUR	1	1	0	0	2
130	SAHIBABAD	1	0	0	1	2

Table 12 contd.

131	SHIVPURI	0	0	1	1	2
132	TUTICORIN	0	0	0	2	2
133	UDAGAMANDALAM	0	1	1	0	2
134	WARANANAGAR	1	0	1	0	2
135	AGARTALA	0	0	1	0	1
136	ALLEPEY	1	0	0	0	1
137	ALWAR	0	0	0	1	1
138	AMBALA	1	0	0	0	1
139	ARRAH	0	0	0	1	1
140	AVIKANAGAR	0	1	0	0	1
141	BALAGHAT	0	0	0	1	1
142	BANASTHALI	0	0	1	0	1
143	BERAMPORE	0	0	0	1	1
144	BHABUA	0	1	0	0	1
145	BHILWARA	1	0	0	0	1
146	CHAIBASA	0	0	1	0	1
147	CHITRAKUT	0	0	0	1	1
148	COOCHBEHAR	0	1	0	0	1
149	CUDDAPAH	1	0	0	0	1
150	DAHIWADI	0	0	1	0	1
151	DURG	0	0	1	0	1
152	FIROZABAD	0	1	0	0	1
153	GANDHIGRAM	0	0	0	1	1
154	GURGAON	1	0	0	0	1
155	HASSAN	0	0	1	0	1
156	IZATNAGAR	0	0	0	1	1
157	JAUNPUR	0	0	0	1	1
158	JHADESWAR	0	0	0	1	1
159	KAMAREDDY	0	0	1	0	1
160	KAGITHAPURAM	0	0	0	1	1
161	KIRLOSKARVADI	0	0	1	0	1
162	KORBA	0	0	0	1	1
163	MANIPAL	0	0	0	1	1
164	MADHUBANI	0	0	1	0	1
165	MACHILIPATNAM	0	0	1	0	1
166	MIDNAPORE	0	0	1	0	1
167	MUZAFFARNAGAR	0	0	0	1	1
168	NEEMUCH	0	0	1	0	1
169	NELLORE	0	0	0	1	1
170	NAGDA	0	1	0	0	1
171	NITTE	0	0	0	1	1
172	NIRJULI	0	0	1	0	1
173	PALAMPUR	0	1	0	0	1
174	PURI	0	0	1	0	1
175	RATLAM	0	0	1	0	1

Table 12 contd.

176	RAJAHMUNDRY	0	1	0	0	1
177	RAMPURA	0	0	1	0	1
178	RENUKOT	0	0	1	0	1
179	SAWAI MADHOPUR	1	0	0	0	1
180	SANGRUR	0	0	0	1	1
181	SATTUR	0	0	0	1	1
182	SECUNDERABAD	1	0	0	0	1
183	SERAMPORE	1	0	0	0	1
184	SOLAPUR	1	0	0	0	1
185	SRINAGAR (JK)	0	1	0	0	1
186	THIRUCHENDUR	1	0	0	0	1
187	ULASHNAGAR	1	0	0	0	1
188	VIJAYANAGAR	0	0	1	0	1
189	UNKNOWN	1	0	0	0	1
	Total	2710	2961	3205	3208	12084

Table 13: India's contribution to the world literature of materials science as seen from *MSCI* 1991-1994 classified by state

Sl No.	State name	Number of papers				
		1991	1992	1993	1994	Total
1	MAHARASHTRA	459	463	512	542	1976
2	WEST BENGAL	344	441	470	489	1744
3	TAMIL NADU	322	353	470	421	1566
4	KARNATAKA	291	342	355	358	1346
5	UTTAR PRADESH	323	323	340	324	1310
6	DELHI	233	245	270	276	1024
7	ANDHRA PRADESH	228	213	208	218	867
8	KERALA	122	137	119	124	502
9	MADHYA PRADESH	77	81	88	82	328
10	GUJARAT	65	80	86	89	320
11	BIHAR	50	77	74	70	271
12	ORISSA	61	72	53	70	256
13	RAJASTHAN	44	49	43	37	173
14	HARYANA	22	18	29	29	98
15	CHANDIGARH	17	19	25	16	77
16	PUNJAB	10	11	18	12	51
17	JAMMU & KASHMIR	9	7	10	17	43
18	ASSAM	7	10	7	7	31
19	HIMACHAL PRADESH	6	7	11	6	30
20	PONDICHERRY	7	4	3	6	20
21	GOA	4	2	3	6	15
22	MANIPUR	4	6	3	2	15
23	MEGHALAYA	4	1	3	7	15
24	MIZORAM	0	0	3	0	3
25	ARUNACHAL PRADESH	0	0	1	0	1
26	TRIPURA	0	0	1	0	1
27	UNKNOWN	1	0	0	0	1
	Total	2710	2961	3205	3208	12084

Table 14: India's contribution to the journal literature of materials science categorised by subfields and impact factors of journals (*MSCI* 1991 - 94)

Subfields / Impact factor →	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
ACOUSTICS	5	16	3	-	-	-	-	-	-	-	-	-	-	-	24
AEROSPACE	1	28	-	-	-	-	-	-	-	-	-	-	-	-	29
AGRICUL	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2
ASTRONOMY	1	0	-	-	-	-	-	-	-	-	-	-	-	-	1
BIOCH, MOL	4	2	-	4	24	-	-	-	1	-	1	-	-	-	36
BIOCHEM	2	0	-	-	-	-	-	-	-	-	-	-	-	-	2
BIOL, MISC	-	0	1	-	-	-	-	-	-	-	-	-	-	-	1
BIOMAT	2	0	-	-	-	-	-	-	-	-	-	-	-	-	2
BIOPHYS	3	0	4	-	-	-	-	-	-	-	-	-	-	-	7
BIOTECH	1	1	-	2	1	-	-	-	-	-	-	-	-	-	5
BOTANY	1	0	-	-	-	-	-	-	-	-	-	-	-	-	1
CERAMICS	34	31	69	33	-	-	-	-	-	-	-	-	-	-	167
CHEM, ANAL	76	163	71	68	70	-	-	-	1	-	-	-	-	-	449
CHEM, APPL	10	18	-	-	-	-	-	-	-	-	-	-	-	-	28
CHEM, INOR	9	5	14	68	-	3	-	2	-	-	-	4	-	-	105
CHEM, ORG	10	1	1	-	1	-	-	-	-	-	-	-	-	-	13
CHEM, PHYS	30	104	162	53	6	45	15	-	-	-	-	-	-	1	416
CHEMISTRY	164	11	77	6	-	6	-	-	-	-	3	-	-	3	270
COATING	2	0	-	-	-	-	-	-	-	-	-	-	-	-	2
COMPOSITES	3	0	-	-	-	-	-	-	-	-	-	-	-	-	3
COMPUTER	226	11	-	-	-	-	-	-	-	-	-	-	-	-	237
CONSTR	95	13	-	-	-	-	-	-	-	-	-	-	-	-	108
CRYSTAL	516	78	33	89	13	-	-	-	-	-	-	-	-	-	729
ELE CHEM	4	74	16	15	-	-	-	-	-	-	-	-	-	-	109

Table 14 contd.

Subfields (Impact factor →)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
ELECTRONICS	3	0	-	-	-	-	-	-	-	-	-	-	-	-	3
ENERGY	60	18	-	-	-	-	-	-	-	-	-	-	-	-	78
ENG, BIOM	10	8	18	5	-	-	-	-	-	-	-	-	-	-	41
ENG, CHEM	67	34	2	-	-	-	-	-	-	-	-	-	-	-	103
ENG, CIVIL	27	37	-	-	-	-	-	-	-	-	-	-	-	-	64
ENG, ELEC	37	97	67	18	12	-	-	-	-	-	-	-	-	-	231
ENG, MECH	286	82	-	-	-	-	-	-	-	-	-	-	-	-	368
ENG, TECH	13	0	-	-	-	-	-	-	-	-	-	-	-	-	13
ENGINEER	151	60	17	-	-	-	-	-	-	-	-	-	-	-	228
ENV SCI	3	1	-	-	-	-	-	-	-	-	-	-	-	-	4
FIRE PREVENT	2	0	-	-	-	-	-	-	-	-	-	-	-	-	2
FOOD SCI	1	0	-	-	-	-	-	-	-	-	-	-	-	-	1
FORESTRY	3	3	-	-	-	-	-	-	-	-	-	-	-	-	6
FULLERENE	3	0	-	-	-	-	-	-	-	-	-	-	-	-	3
GEOLOGY	27	7	-	-	8	-	-	-	-	-	-	-	-	-	42
INSTRUM	-	2	3	-	-	-	-	-	-	-	-	-	-	-	5
LEATHER	12	0	-	-	-	-	-	-	-	-	-	-	-	-	12
LUMIN	23	0	-	-	-	-	-	-	-	-	-	-	-	-	23
MARINE	2	0	-	-	-	-	-	-	-	-	-	-	-	-	2
MATER	529	1041	481	47	1	48	-	-	-	-	-	-	-	-	2148
MATER, PAP	25	2	-	-	-	-	-	-	-	-	-	-	-	-	27
MATHEMAT	8	0	-	-	-	-	-	-	-	-	-	-	-	-	8
MATHS, APP	3	4	-	-	-	-	-	-	-	-	-	-	-	-	7
MECHANICS	108	86	22	4	2	-	-	-	-	-	-	-	-	-	222
MED, GEN	6	0	-	-	-	-	-	-	-	-	-	-	-	-	6

Table 14 contd.

Subfields / Impact factor →	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
MED, LEG	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
MET MIN	162	217	38	59	-	-	-	-	-	-	-	-	-	-	476
METAL FINISHING	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2
METALL	335	-	-	-	-	-	-	-	-	-	-	-	-	-	335
MINERALOGY	5	11	5	4	-	-	-	-	-	-	-	-	-	-	25
MULTIDIS	66	-	1	2	-	-	-	-	-	-	-	-	-	1	70
NUCL SCI	42	-	-	14	-	-	-	-	-	-	-	-	-	-	56
ONCOLOGY	-	5	-	-	-	-	-	-	-	-	-	-	-	-	5
OPTICS	16	42	7	6	5	-	-	-	-	-	-	-	-	-	76
PAPER	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
PHARMACOL	2	2	-	-	-	-	-	-	-	-	-	-	-	-	4
PHYS, APPL	-	86	193	276	211	-	-	97	-	-	-	-	-	-	863
PHYS, ATOM	28	-	1	7	-	8	14	-	-	-	-	-	-	-	58
PHYS, COND	173	380	290	207	16	-	458	-	-	-	-	-	-	-	1524
PHYS, FLUI	-	-	24	-	-	-	-	-	-	-	-	-	-	-	24
PHYS, MATH	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
PHYS, NUCL	61	-	66	-	-	-	-	-	-	-	-	-	-	-	127
PHYS, PART	1	-	-	-	-	-	-	-	-	-	1	-	-	-	2
PHYSICS	229	-	10	6	9	-	-	-	-	-	-	1	10	-	265
PLASTICS	85	-	-	-	-	-	-	-	-	-	-	-	-	-	85
POLYM SCI	226	611	102	187	5	50	-	-	-	-	-	-	-	-	1181
PUB HEALTH	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
RUBBER	39	-	-	-	-	-	-	-	-	-	-	-	-	-	39
SEMICONDUCTOR	-	-	2	-	-	-	-	-	-	-	-	-	-	-	2
SPECTROSCO	-	15	10	4	1	-	1	-	-	-	-	-	-	-	31

Table 14 contd.

Subfields (Impact factor →)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
SUPERCONDUCT	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
TECHNOL	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2
TEXTILES	107	-	-	-	-	-	-	-	-	-	-	-	-	-	107
THIN FILMS	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
WASTE MANAGEMENT	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2
ZOOLOGY	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
BOOK															65
CONFERENCE															258
Total	4519	3410	1813	1184	385	160	488	99	2	-	5	5	10	5	12084

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

Table 15: India's contribution to the journal literature of materials science categorised by subfield and country of publication of the journals (*MSCI* 1991 - 94)

	AUS	AUT	CAN	CHE	CHL	CSK	DEU	DNK	FRA	HUN	IND	ISR	ITA	JPN	KOR	NA	NLD	POL	PRC	ROM	SGP	SUN	SWE	UKD	USA	YUG	Total
ACOUSTICS	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	19	-	24
AEROSPACE	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	-	29
AGRICUL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2
ASTRONOMY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
BIOCH, MOL	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	31	-	36
BIOCHEM	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
BIOL, MISC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
BIOMAT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2
BIOPHYS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	1	-	7
BIOTECH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	2	1	-	5
BOTANY	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
CERAMICS	-	-	2	-	-	-	3	-	1	-	-	-	-	-	-	-	69	-	-	-	-	-	-	55	37	-	167
CHEM, ANAL	-	-	-	-	-	-	52	-	-	74	-	-	-	-	-	-	230	1	-	-	-	-	-	73	19	-	449
CHEM, APPL	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	5	-	28
CHEM, INOR	-	-	-	2	-	-	3	-	9	-	-	-	-	-	-	-	2	-	-	-	-	-	-	7	82	-	105
CHEM, ORG	-	-	-	1	-	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	-	4	3	-	13
CHEM, PHYS	-	-	-	74	-	-	8	-	1	1	-	-	-	-	-	-	137	-	-	-	-	-	-	81	114	-	416
CHEMISTRY	-	-	3	-	-	-	2	-	-	2	144	-	-	8	1	-	7	-	-	1	-	-	-	9	92	1	270
COATING	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2
COMPOSITES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	3
COMPUTER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	1	224	-	237
CONSTR	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	66	-	108
CRYSTAL	-	-	-	107	-	-	246	195	-	-	-	-	-	-	-	-	62	-	-	-	-	1	-	99	19	-	729
ELE CHEM	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	79	18	-	109
ELECTRONICS	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
ENERGY	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	53	-	-	-	-	-	-	19	5	-	78
ENG, BIOM	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	12	23	-	41

	AUS	AUT	CAN	CHE	CHL	CSK	DEU	DNK	FRA	HUN	IND	ISR	ITA	JPN	KOR	NA	NLD	POL	PRC	ROM	SGP	SUN	SWE	UKD	USA	YUG	Total
ENG, CHEM	-	-	1	20	-	-	-	-	-	-	-	8	-	-	-	-	29	-	-	-	-	-	-	27	18	-	103
ENG, CIVIL	-	-	2	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	3	-	64
ENG, ELEC	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	152	71	-	231
ENG, MECH	-	-	-	-	-	-	-	-	-	2	-	-	-	2	-	-	69	-	-	-	-	-	-	178	117	-	368
ENG, TECH	-	-	-	-	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
ENGINEER	-	-	-	-	-	-	9	-	-	-	28	-	-	-	-	-	18	-	-	-	-	-	-	121	52	-	228
ENV SCI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	4
FIRE PREVENT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2
FOOD SCI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
FORESTRY	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	6
FULLERENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	3
GEOLOGY	-	7	-	-	-	-	8	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	20	-	-	42
INSTRUM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	5
LEATHER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	4	-	12
LUMIN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	-	-	23
MARINE	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
MATER	-	-	-	242	-	-	-	-	4	-	337	-	-	41	-	-	353	-	-	-	-	2	-	742	427	-	2148
MATER, PAP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-	-	-	7	-	27
MATHEMAT	-	-	-	-	-	-	1	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
MATHS, APP	-	-	-	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	7
MECHANICS	-	43	-	-	-	-	4	-	10	-	-	-	-	-	-	-	39	-	-	-	-	-	-	63	63	-	222
MED, GEN	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	-	6
MED, LEG	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
MET MIN	-	-	10	38	-	-	90	-	-	-	39	-	-	-	-	-	86	-	-	-	-	-	18	82	113	-	476
METAL FINISHING	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2
METALL	9	-	-	-	8	1	1	-	1	-	256	-	-	-	-	-	-	-	-	-	-	-	-	31	28	-	335
MINERALOGY	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	4	-	25
MULTIDIS	-	-	-	-	-	-	-	-	-	-	65	-	-	-	-	-	-	-	-	-	-	-	-	4	1	-	70
NUCL SCI	-	-	-	2	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	35	17	-	56
ONCOLOGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	5

	AUS	AUT	CAN	CHE	CHL	CSK	DEU	DNK	FRA	HUN	IND	ISR	ITA	JPN	KOR	NA	NLD	POL	PRC	ROM	SGP	SUN	SWE	UKD	USA	YUG	Total
OPTICS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	4	65	-	76
PAPER	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
PHARMACOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	1	1	-	4
PHYS, APPL	-	-	-	-	-	-	-	-	-	-	-	-	-	77	-	-	187	-	-	-	-	-	-	178	421	-	863
PHYS, ATOM	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	43	-	-	-	-	-	-	-	14	-	58
PHYS, COND	-	-	-	-	-	-	420	-	-	-	-	-	-	-	-	-	113	-	-	-	-	1	-	242	748	-	1524
PHYS, FLUI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	24
PHYS, MATH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
PHYS, NUCL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	69	-	-	-	-	-	-	2	56	-	127
PHYS, PART	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	2
PHYSICS	-	-	7	-	-	4	-	-	15	-	155	-	6	6	-	-	11	4	3	-	12	-	-	2	40	-	265
PLASTICS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	40	-	85
POLYM SCI	-	-	2	95	-	-	45	-	-	-	-	-	-	14	-	-	27	-	3	-	-	1	-	332	662	-	1181
PUB HEALTH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
RUBBER	-	-	-	-	-	-	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	39
SEMICONDUCTOR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2
SPECTROSCO	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	10	2	-	31
SUPERCONDUCT	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
TECHNOL	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2
TEXTILES	-	-	-	-	-	-	-	-	-	-	107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	107
THIN FILMS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
WASTE MANAGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	2
ZOOLOGY	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
CONFERENCE																											258
BOOK																											65
Total	9	51	36	608	8	5	951	196	47	79	1162	8	13	150	1	1	1654	5	6	21	12	8	23	2904	3836	1	12084

Table 16: India's contribution to the journal literature of materials science categorised by leading institutions and impact factors of journals (*MSCI* 1991 - 1994)

Sl No.	Institution name / Impact Factor →	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Total
1	INDIAN-INST-SCI, BANGALORE	67	195	180	176	136	58	42	70	14	-	-	3	-	5	3	949
2	INDIAN-INST-TECHNOL, KHARAGPUR	41	224	259	67	49	9	1	5	6	-	-	-	-	-	-	661
3	INDIAN-INST-TECHNOL, MADRAS	58	254	149	59	38	14	1	8	-	-	-	-	-	-	-	581
4	BHABHA-ATOM-RES-CTR, BOMBAY	55	122	130	83	92	27	2	24	4	-	-	1	-	-	-	540
5	INDIAN-INST-TECHNOL, NEW-DELHI	53	121	125	59	40	17	-	6	3	-	-	-	-	-	-	424
6	INDIAN-INST-TECHNOL, KANPUR	29	121	113	42	38	6	3	21	5	-	-	-	1	-	-	379
7	BANARAS-HINDU-UNIV, VARANASI	29	108	124	52	26	9	2	10	-	-	-	-	-	-	1	361
8	INDIAN-INST-TECHNOL, BOMBAY	31	89	105	59	41	10	5	12	6	-	-	-	-	-	-	358
9	NATL-PHYS-LAB, NEW-DELHI	18	53	51	67	42	14	8	16	15	1	-	-	-	1	-	286
10	TATA-INST-FUNDAMENTAL-RES, BOMBAY	12	23	39	61	25	33	1	54	4	-	-	-	1	3	-	256
11	INDIAN-ASSOC-CULTIVAT-SCI, CALCUTTA	4	42	62	61	35	3	12	20	7	-	-	-	-	-	-	246
12	NATL-CHEM-LAB, POONA	15	24	50	35	43	10	34	7	1	-	-	-	-	-	-	219
13	INDIRA-GANDHI-CTR-ATOM-RES, KALPAKKAM	21	53	68	37	28	4	-	7	-	-	-	-	-	-	-	218
14	CENT-ELECTROCHEM-RES-INST, KARAIKKUDI	42	26	65	23	3	20	-	-	-	-	-	-	-	-	-	179
15	JADAVPUR-UNIV, CALCUTTA	13	52	65	21	13	2	2	7	-	-	-	-	-	-	-	175
16	ANNA-UNIV, MADRAS	14	78	37	13	21	1	-	5	-	-	-	-	-	-	-	169
17	DEF-MET-RES-LAB, HYDERABAD	13	53	40	46	14	2	1	-	-	-	-	-	-	-	-	169
18	OSMANIA-UNIV, HYDERABAD	5	84	39	17	6	5	1	2	-	-	-	-	-	-	-	159
19	SRI-VENKATESWARA-UNIV, TIRUPATI	12	28	60	53	2	-	-	-	-	-	-	-	-	-	-	155
20	UNIV-POONA, POONA	6	23	36	30	32	6	5	5	8	-	-	-	1	1	-	153
21	UNIV-ROORKEE, ROORKEE	8	48	55	11	9	-	-	12	-	-	-	-	-	-	-	143
22	UNIV-CALCUTTA, CALCUTTA	7	42	46	12	11	3	1	12	6	-	-	-	-	-	-	140
23	UNIV-DELHI, DELHI	12	29	32	28	20	6	-	7	3	-	-	-	-	-	-	137
24	REG RES LAB, TRIVANDRUM	8	17	49	26	19	4	1	3	3	-	-	-	-	-	-	130
25	UNIV-HYDERABAD, HYDERABAD	23	9	15	37	26	4	1	10	-	-	-	-	1	-	-	126
26	SARDAR-PATEL-UNIV, VALLABH-VIDYANAGAR	5	53	40	6	11	-	-	-	-	-	-	-	-	-	-	115
27	CENT-GLASS-&-CERAM-RES-INST, CALCUTTA	8	23	48	13	10	3	5	-	-	-	-	-	-	-	-	110
28	SAHA-INST-NUCL-PHYS, CALCUTTA	3	17	14	30	12	6	4	23	-	-	-	-	-	-	-	109
29	UNIV-BOMBAY, BOMBAY	22	8	57	11	4	1	-	-	-	-	-	-	-	-	-	103
30	VIKRAM-SARABHAI-SPACE-CTR, TRIVANDRUM	8	40	41	1	6	-	2	-	-	-	-	-	-	-	-	98
31	NATL-MET-LAB, JAMSHEDPUR	6	30	47	7	6	-	-	1	-	-	-	-	-	-	-	97
32	COCHIN-UNIV-SCI-&-TECHNOL, COCHIN	7	40	23	12	7	3	1	2	1	-	-	-	-	-	-	96
33	SHIVAJI-UNIV, KOLHAPUR	6	47	14	23	4	-	-	-	-	-	-	-	-	-	-	94
34	UNIV-MADRAS, MADRAS	7	31	26	13	8	7	-	-	-	-	-	-	-	-	-	92
35	HARCOURT-BUTLER-TECHNOL-INST, KANPUR	3	32	31	10	9	-	1	1	-	-	-	-	-	-	-	87

Table 16 contd.

Sl No.	Institution name (Impact Factor →)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Total
36	CENT-LEATHER-RES-INST, MADRAS	8	29	27	8	10	-	3	1	-	-	-	-	-	-	-	86
37	UNIV-RAJASTHAN, JAIPUR	6	14	32	16	5	3	-	1	-	-	-	1	1	-	1	80
38	INDIAN-INST-CHEM-TECHNOL, HYDERABAD	4	20	30	8	9	-	4	-	2	-	-	-	-	-	-	77
39	REG-RES-LAB, BHUBANESWAR	5	30	25	13	1	-	-	-	-	-	-	-	-	-	-	74
40	MAHARAJA-SAYAJIRAO-UNIV-BARODA, BARODA	4	32	23	5	6	-	1	-	-	-	-	-	-	-	-	71
41	NATL-AERONAUT-LAB, BANGALORE	10	18	16	15	9	2	-	1	-	-	-	-	-	-	-	71
42	SREE-CHITRA-TIRUNAL-INST-MED-SCI-TECH, TRIVANDRUM	14	17	19	15	5	-	-	-	-	-	-	-	-	-	-	70
43	UNIV-MYSORE, MYSORE	7	33	9	7	5	-	3	1	-	-	-	-	-	-	-	65
44	KARNATAK-UNIV, DHARWAR	4	11	19	10	16	-	1	1	-	-	-	-	-	-	-	62
45	INST-PHYS, BHUBANESWAR	1	6	16	9	7	6	1	13	-	-	-	-	-	-	-	59
46	REG RES LAB, BHOPAL	4	20	32	1	-	-	-	-	-	-	-	-	-	-	-	57
47	PANJAB-UNIV, CHANDIGARH	4	12	9	14	6	2	-	5	-	-	-	-	-	-	-	52
48	SOLID-STATE-PHYS-LAB, DELHI	3	4	18	17	9	1	-	-	-	-	-	-	-	-	-	52
49	RANI-DURGAWATI-UNIV-JABALPUR, JABALPUR	2	39	7	-	1	-	1	-	-	-	-	-	-	-	-	50
50	MADURAI-KAMARAJ-UNIV, MADURAI	-	14	12	9	4	3	1	6	-	-	-	-	-	-	-	49
51	NAGPUR-UNIV, NAGPUR	-	24	13	6	4	-	1	1	-	-	-	-	-	-	-	49
52	RAMAN-RES-INST, BANGALORE	10	3	18	17	-	1	-	-	-	-	-	-	-	-	-	49
53	CTR-ADV-TECHNOL, INDORE	1	4	7	10	6	12	-	5	2	-	-	-	-	-	-	47
54	MAHATMA-GANDHI-UNIV, KOTTAYAM	2	15	17	6	6	-	-	-	-	-	-	-	-	-	-	46
55	GORAKHPUR-UNIV, GORAKHPUR	4	16	14	9	2	-	-	-	-	-	-	-	-	-	-	45
56	UNIV-ALLAHABAD, ALLAHABAD	7	14	2	6	2	3	-	7	-	-	-	-	-	-	-	41
57	KAKATIYA-UNIV, WARANGAL	-	21	11	6	3	-	-	-	-	-	-	-	-	-	-	41
58	STRUCT-ENGN-RES-CTR, MADRAS	1	36	2	2	-	-	-	-	-	-	-	-	-	-	-	41
59	MAHARSHI-DAYANAND-UNIV-ROHTAK, ROHTAK	5	6	11	13	1	1	-	3	-	-	-	-	-	-	-	40
60	BANGALORE-UNIV, BANGALORE	1	19	10	5	1	3	-	-	-	-	-	-	-	-	-	39
61	STEEL-AUTHOR-INDIA-LTD, RANCHI	8	20	7	2	2	-	-	-	-	-	-	-	-	-	-	39
62	ALIGARH-MUSLIM-UNIV, ALIGARH	4	11	13	6	2	-	1	1	-	-	-	-	-	-	-	38
63	JAWAHARLAL-NEHRU-UNIV, NEW-DELHI	-	1	4	7	9	4	-	12	-	1	-	-	-	-	-	38
64	INDIAN-SCH-MINES, DHANBAD	7	17	13	-	-	-	-	-	-	-	-	-	-	-	-	37
65	UNIV-JAMMU, JAMMU	1	19	11	3	2	-	-	-	-	-	-	-	-	-	-	36
66	N-BENGAL-UNIV, DARJEELING	3	11	14	5	3	-	-	-	-	-	-	-	-	-	-	36
67	BHARATHIAR-UNIV, COIMBATORE	1	24	4	4	1	-	-	-	-	-	-	-	-	-	-	34
68	DEVI-AHILYA-UNIV, INDORE	-	10	5	9	1	2	-	4	-	-	-	-	-	-	-	31
69	KURUKSHETRA-UNIV, KURUKSHETRA	5	5	6	14	-	-	-	1	-	-	-	-	-	-	-	31
70	CENT-ELECT-ENGN-RES-INST, PILANI	3	7	11	4	2	3	-	-	1	-	-	-	-	-	-	31

Table 16 contd.

Sl No.	Institution name / Impact Factor →	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Total
71	RAVENSHAW-COLL, CUTTACK	-	2	25	3	-	-	-	-	-	-	-	-	-	-	-	30
72	ANDHRA-UNIV, WALTAIR	3	11	11	3	4	-	-	-	-	-	-	-	-	-	-	32
73	AGRA-UNIV, AGRA	2	3	15	6	-	2	-	1	-	-	-	-	-	-	-	29
74	TATA-IRON-&-STEEL-CO-LTD, JAMSHEDPUR	8	12	7	2	-	-	-	-	-	-	-	-	-	-	-	29
75	BERHAMPUR-UNIV, BERHAMPUR	-	3	7	3	5	2	-	8	-	-	-	-	-	-	-	28
76	INST-RADIO-PHYS-&-ELECTR, CALCUTTA	-	2	12	6	5	-	-	2	-	-	-	-	-	-	-	27
77	S-GUJARAT-UNIV, SURAT	6	1	15	1	-	-	3	1	-	-	-	-	-	-	-	27
78	UNIV-BURDWAN, BURDWAN	3	2	2	7	7	-	-	2	3	-	-	-	-	-	-	26
79	HIMACHAL-PRADESH-UNIV, SIMLA	3	6	9	3	5	-	-	-	-	-	-	-	-	-	-	26
80	BOSE-INST, CALCUTTA	1	8	3	1	3	1	-	9	-	-	-	-	-	-	-	26
81	UNIV-KERALA, TRIVANDRUM	1	5	10	1	7	-	-	-	-	-	-	-	-	-	-	24
82	UTKAL-UNIV, BHUBANESWAR	-	11	8	2	1	2	-	-	-	-	-	-	-	-	-	24
83	INDIAN-PETROCHEM-CORP-LTD, BARODA	1	7	10	4	2	-	-	-	-	-	-	-	-	-	-	24
84	RAVISHANKAR-UNIV, RAIPUR	3	2	3	12	3	-	-	-	-	-	-	-	-	-	-	23
85	SAURASHTRA-UNIV, RAJKOT	-	6	4	9	1	1	-	1	1	-	-	-	-	-	-	23
86	VIKRAM-UNIV, UJJAIN	-	2	13	3	2	-	-	3	-	-	-	-	-	-	-	23
87	CENT-BLDG-RES-INST, ROORKEE	9	13	1	-	-	-	-	-	-	-	-	-	-	-	-	23
88	PUNJAB-AGR-UNIV, LUDHIANA	3	2	3	8	-	-	-	5	-	-	-	-	-	-	-	21
89	REG-RES-LAB, JORHAT	-	6	10	4	1	-	-	-	-	-	-	-	-	-	-	21
90	BARKATULLAH-UNIV, BHOPAL	-	7	4	2	1	-	-	6	-	-	-	-	-	-	-	20
91	KALYANI-UNIV, KALYANI	1	3	12	2	1	-	-	1	-	-	-	-	-	-	-	20
92	SRI-KRISHNADEVARAYA-UNIV, ANANTAPUR	1	7	7	3	2	-	-	-	-	-	-	-	-	-	-	20
93	INDIAN-INST-PETR, DEHRA-DUN	-	12	4	4	-	-	-	-	-	-	-	-	-	-	-	20
94	JUTE TECHNOL RES LABS, CALCUTTA	4	8	7	-	-	-	-	-	-	-	-	-	-	-	-	19
95	REG-ENGN-COLL, DURGAPUR	-	7	8	1	1	-	-	-	-	-	-	-	-	-	-	17
96	JAMIA-MILLIA-ISLAMIA, NEW-DELHI	1	5	5	3	1	-	-	2	-	-	-	-	-	-	-	17
97	UNIV-JODHPUR, JODHPUR	-	5	6	4	2	-	-	-	-	-	-	-	-	-	-	17
98	MANGALORE-UNIV, MANGALORE	1	9	3	1	3	-	-	-	-	-	-	-	-	-	-	17
99	NAGARJUNA-UNIV, NAGARJUNA-NAGAR	-	6	6	5	-	-	-	-	-	-	-	-	-	-	-	17
100	CENT SALT & MARINE CHEM RES INST, BHAVNAGAR	3	8	4	1	-	1	-	-	-	-	-	-	-	-	-	17
	TOTAL	864	3002	3056	1686	1083	342	156	454	95	2	-	5	5	10	5	10765

A - Non-SCI Journal / IF=0
B - > 0.0 - < 0.5
C - ≥ 0.5 - < 1.0
D - ≥ 1.0 - < 1.5
E - ≥ 1.5 - < 2.0
F - ≥ 2.0 - < 2.5
G - ≥ 2.5 - < 3.0
H - ≥ 3.0 - < 3.5
I - ≥ 3.5 - < 4.0
J - ≥ 4.0 - < 4.5
K - ≥ 4.5 - < 5.0
L - ≥ 5.0 - < 6.0
M - ≥ 6.0 - < 7.0
N - ≥ 7.0 - < 8.0
O - ≥ 8.0

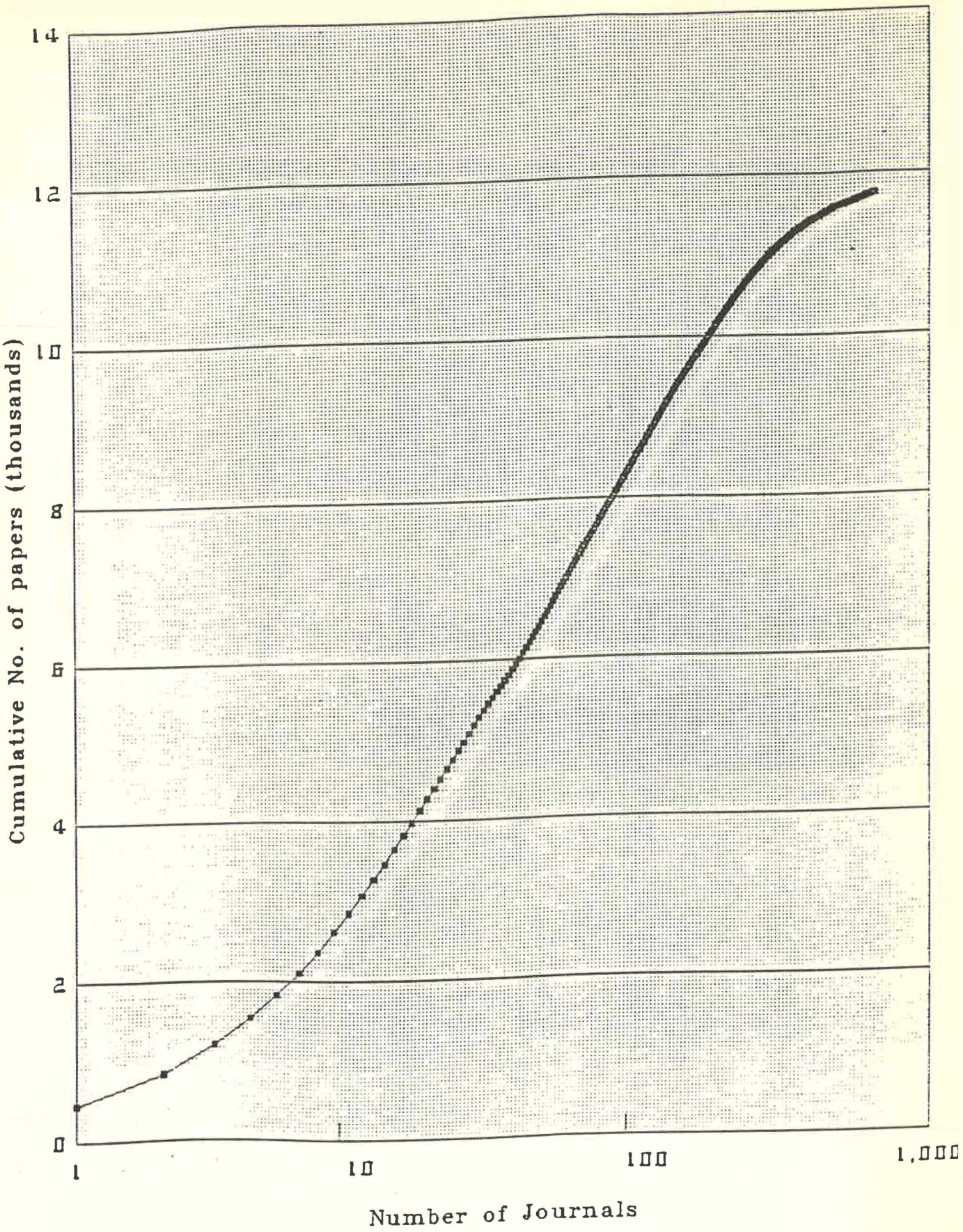

Fig. 1 Number of Journals Vs Cumulative Number of Articles
Source: MSCI 1991 - 1994