

Which Journals Do Publish Articles in Nanotechnology?

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Very few reports have so far been published about the publication of nanotechnology articles in various journals. This report studies the number of nanotechnology articles published in ISI-indexed journals, and investigates the ascending or descending trend of the publication of such articles in ISI-indexed journals. The report then presents a list of conferences in which the highest number of nanotechnology articles have been presented.

Introduction

Scientific journals have always been among the most important tools in the development of science and technology, because by publishing scientific reports and articles, they demonstrate the movement of science borders. Like reliable references, the journals provide researchers with the latest scientific findings and help them achieve their research objects. The philosophy behind the publication of articles at the international level is to take out human discoveries from laboratories and scientific centers and to help the development of science by publishing them. Journals create an atmosphere to share scientific achievements and they prevent the loss or uselessness of the finding.

After less than two decades since the appearance of nanotechnology, this technology has penetrated all scientific aspects. Therefore, various journals in all sciences publish nanotechnology-related articles and reports. No comprehensive research has so far been carried out to determine the share of journals in the publication of nanotechnology articles. Introduction to nanotechnology penetration in the ISI-indexed journals is the main objective of the present study. Therefore, the following report studies the share of ISI-indexed journals in the publication of nanotechnology-related articles.

ISI-Indexed Journals

Institute for Scientific Information (ISI) was established by Eugene Garfield in 1960, aiming

to collect the abstracts of the scientific articles published in international journals. The institute was later acquired by Thomson Scientific & Healthcare, and it is currently known as Thomson Scientific. The term ISI is commonly used to refer to two important products of the institute, including ISI Web of Knowledge and Web of Science. The two products are described hereafter.

ISI Web of Knowledge includes 22,000 journals, 23 million patents, 192,000 articles presented in conferences, 5,500 websites and 5,000 volumes of books. Master Journal List includes the titles of all journals that are licensed by various products of Thomson Scientific Institute. The journals are annually evaluated, and according to the evaluation, approximately 8,000 to 9,000 of the journals acquire impact factor (IF) and are indexed in Journal Citation Report (JCR). JCR is in fact a databank of ISI-indexed journals. Only the articles that are published in the journals of this databank are indexed in Web of Science (WoS). WoS provides accessibility to the articles in the fields of sciences, social sciences, human sciences, and arts through the three following indexes.

1. Science Citation Index Expanded (SCIE), which includes 7,565 journals in various fields of pure sciences such as physics, chemistry, mathematics, biology, geology, medical sciences, pharmaceuticals, engineering, agriculture, etc. This index is in fact the expanded index of SCI.
2. Social Science Citation Index (SSCI), which includes 2,306 journals in various fields of social sciences such as trade, economics, communications, education, research, geography, history, law, politics, management, psychology, transportation, etc.
3. Arts and Human Sciences Citation Index (A&HSCI), which includes 1,243 journals in various fields of humanities sciences and art such as literature, languages, poetry, music, philosophy, religion, art, architecture, theatre, etc.

Therefore, it is necessary to search ISI Web of Knowledge and Web of Science indexes to determine whether an article or a journal has been indexed in ISI or not.

Methodology

Search String confirmed by Statnano website [1] was used in Web of Science Section to study the share of journals in the publication of nanotechnology articles. Results were obtained from publication sources and the data was evaluated.

Results

Share of Journals in Publication of Nanotechnology Articles

Figure 1 demonstrates the top 30 journals that have published the highest number of nanotechnology articles in 2001-2013. APPLIED PHYSICS LETTERS and PHYSICAL REVIEW B have ranked first and second by publishing 24,382 and 23,717 articles, respectively. These two journals have published respectively 2.9% and 2.82% of all nanotechnology-related articles in the past 13 years. The two journals are the only ones that possess a share of nanotechnology articles publication higher than 2%, and other journals are far behind them. For instance, the JOURNAL OF APPLIED PHYSICS, which ranks third in the following chart, has published 1.95% of nanotechnology-related articles in the past 13 years.

Among the top 30 journals, there are only four nanotechnology specific journals classified in Nanoscience and Nanotechnology category of ISI categories. The four journals are as follows: Nanotechnology, Journal of Nanoscience and Nanotechnology, Nano Letters and ACS Nano.



Figure 1: Top 30 journals in publication of nanotechnology articles in 2001-2013

Trend of Publication Growth in the Past Years

Figure 2 shows the trend of the publication of nanotechnology-related articles by top 10 journals in 2013 in the field of nanotechnology. Among these top 10 journals, RSC ADVANCES was established in 2011 and the JOURNAL OF MATERIALS CHEMISTRY A separated from Journal of Materials Chemistry in 2012. RSC ADVANCES is published by Royal Society of Chemistry in Britain. Although this journal started its activities in 2011, it possesses the highest rate of growth among all other journals. ELECTROCHIMICA ACTA, ACS APPLIED MATERIALS INTERFACES, and NANOSCALE have shown a relative growth too, and it seems these four journals will be able to improve their ranks in the future if they continue the ascending trend. APPLIED PHYSICS LETTERS ranks first while it ranked third in the previous year's ranking, and it obtained the first rank due to its high growth. Conversely, JOURNAL OF PHYSICAL CHEMISTRY C ranked first in the ranking of nanotechnology articles

publication in 2012, but it ranks fifth in the latest ranking.



Figure 2: Trend of number of nanotechnology articles published by top 10 journals

Qualitatively Comparison of Journals

Figure 3 compares the number of nanotechnology articles published by different journals in 2001-2013 and their impact factors. Impact factors for Appl. Phys. Lett. and Phys. Rev. B are less than 4 although these journals have published the highest number of articles. Adv. Mater., Angew. Chem., and Nano Lett. have very high impact factors but they have published less than 10,000 nanotechnology-related articles. Many of the journals are located in the lowest part of the chart on the left, where specific nanotechnology journals (Nanotechnology, J. Nanosci. Nanotechnol.) have been located. It means that the journals whose scope is not limited only to nanotechnology are similar to specific nanotechnology journals in the number of nanotechnology articles and impact factors.



Figure 3: Number of nanotechnology articles published by different journals in 2001-2013 and their IF.

Language Diversity in Nanotechnology Article Publication

Table 1 shows different languages used in the writing of nanotechnology articles in ISI-indexed journals. English ranks first with 821,684 articles and it has the highest share among all languages with 97.67%. Chinese and Japanese rank second and third, respectively.

Table 1: Number of nanotechnology articles written in different languages

Language No. of Nanotechnology Articles Percentage

English	821,684	97.67%
Chinese	14,999	1.78%
Japanese	1,048	0.13%
German	665	0.08%
Korean	481	0.06%

French

471

0.06%

Nanotechnology Articles in Conferences

A list of conferences in which the highest numbers of nanotechnology articles have been presented in the past few years has been displayed in table 2. Conferences organized by European Materials Research Society have published the highest number of articles.

Table 2: 10 Conferences with highest number of nanotechnology articles

No	Conference Title	No. of Nanotechnology Articles
1	SPRING MEETING OF THE EUROPEAN MATERIALS RESEARCH SOCIETY	489
2	INTERNATIONAL CONFERENCE ON NANOSCIENCE AND NANOTECHNOLOGY	387
3	INTERNATIONAL CONFERENCE ON SOLID STATE DEVICES AND MATERIALS	350
4	SPRING MEETING OF THE EUROPEAN MATERIALS RESEARCH SOCIETY E MRS	258
5	MEETING OF THE EUROPEAN MATERIALS RESEARCH SOCIETY	230
6	INTERNATIONAL CONFERENCE ON LUMINESCENCE AND OPTICAL SPECTROSCOPY OF CONDENSED MATTER	211
7	6TH INTERNATIONAL CONFERENCE ON NANOSCIENCE AND TECHNOLOGY	202
8	16TH INTERNATIONAL CONFERENCE ON SCIENCE AND TECHNOLOGY OF SYNTHETIC METALS ICSM 2000	198
9	INTERNATIONAL CONFERENCE ON MAGNETISM ICM 2003	197
10	10TH INTERNATIONAL CONFERENCE ON MODULATED SEMICONDUCTOR STRUCTURES	195

References:

1. <https://statnano.com/searchstring>