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MAPPING OF BIO PHYSICS PUBLICATIONS: A SCIENTOMETRIC STUDY

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ABSTRACT

This paper discusses about the Bio Physics publications and its citation available in the Scimago Journal and Country Rank data base by the authors from top 15 countries (based on publications). The relevant data are collected from Scimago Journal and Country Rank data base and it was analyzed. It shows among the Bio Physics publications totally 301128 articles were published which are indexed in scimago database. Among the publications, maximum of 87666 (29.11%) articles published by United States and followed by China with 32609 (10.83%) publications during the study period.

KEYWORDS: Bio-Physics, Scientometric,Scimago Journal And Country Rank, Citations, Citable Documents, Self Citations, H-Index.

INTRODUCTION

The true barometer of assessing the quality and quantity of a journal is the Citation Index. While discussing citation, one needs to understand the citation. Simply, when another refers other works in his/ her article, we call the article referred is cited. In other words the citation is called as the previous work which is referred in the present work. The quality of a given work can rightly be adjudged through the number of citations that it gets. Therefore, a certain piece of article or research paper is carrying more number of citations get more impact than the work carrying less citation. Therefore, we always refer to some indexing and abstracting databases like Scopus, Web of Science, or even Google Scholars to know the impact of a journal, a particular article or a particular author. Scimago Journal and Country Rank database developed by Scimago Lab and powered by Scopus.

REVIEW OF LITERATURE

Nicholas and Ritchie (1978) [1] view that, "study of bibliometrics concept provides information, knowledge and how it is communicated". Moreover, bibliometric studies are normally employed to evaluate the academic research output, the quality of the journal, impact and influence of articles, authors, and assorted parameters.

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Though there has been substantial growth of literature on bibliometric studies during the last decade, the authors focus on some of the pertinent literature that relate to the present study. Potter (1981) [2] defines bibliometric analysis as "the calculation and study of the research publication patterns of all types of written communication and their authorship nature". In a most interesting study Mooghali ,et al.(2011) [3] analyzed records of three premiere indexes known as , "SSCI", "SCI", and "AHCI", and it is projected in the field of "scientometrics" evolved between 1980 to 2009. The pattern of growth of literature in the field of Nanoscience during 1990 to 2009 was reported by Karpagam et al. (2011) [4] .In the similar vein, Abramo (2011) [5] exercised bibliometric techniques on some national level research assessment. Lapon-Kandeishein and Prebor (2011) [6] bibliographical research on Hebrew printing also needs mention. In the similar light bibliometric studies by veterans like Krampen, Eye and Schui (2011) [7] , Kumar Suchetan(2012) [8] and others also presented findings on different directions. Dhanavandan and Tamizhchelvan (2014) [9] studied citations and research productivity of south Tamil Nadu universities from 2009 to 2013 based on Indian Citation Index (ICI)

METHODOLOGY

This study aims to discuss about the Bio Physics publications and its citation available in the Scimago Journal and Country Rank data base [10] by the top 15 countries (based on publications). The relevant data are collected from Scimago Journal and Country Rank database. Based on the available sources, the following discussions are made.

ANALYSIS AND INTERPRETATION

The distributions of the Bio Physics publications by the top 15 countries that is available in Scimago Journal and Country Rank data base which were analyzed in the table 1.

COUNTRY- WISE BIO PHYSICSPUBLICATIONS (TOP 15 COUNTRIES)

Table 1.Country- Wise Bio Physics Publications (Top 15 Countries)

S. No.	Country	Bio Physics Publication	%
1	United States	87666	29.11
2	China	32609	10.83
3	Japan	31523	10.47
4	Germany	24687	8.20
5	United Kingdom	21330	7.08
6	France	17624	5.85
7	Italy	13464	4.47
8	Canada	13084	4.34
9	Russian Federation	10446	3.47
10	India	10050	3.34
11	South Korea	9812	3.26
12	Spain	7333	2.44
13	Netherlands	7231	2.40
14	Australia	7222	2.40
15	Brazil	7047	2.34
	Total	301128	100

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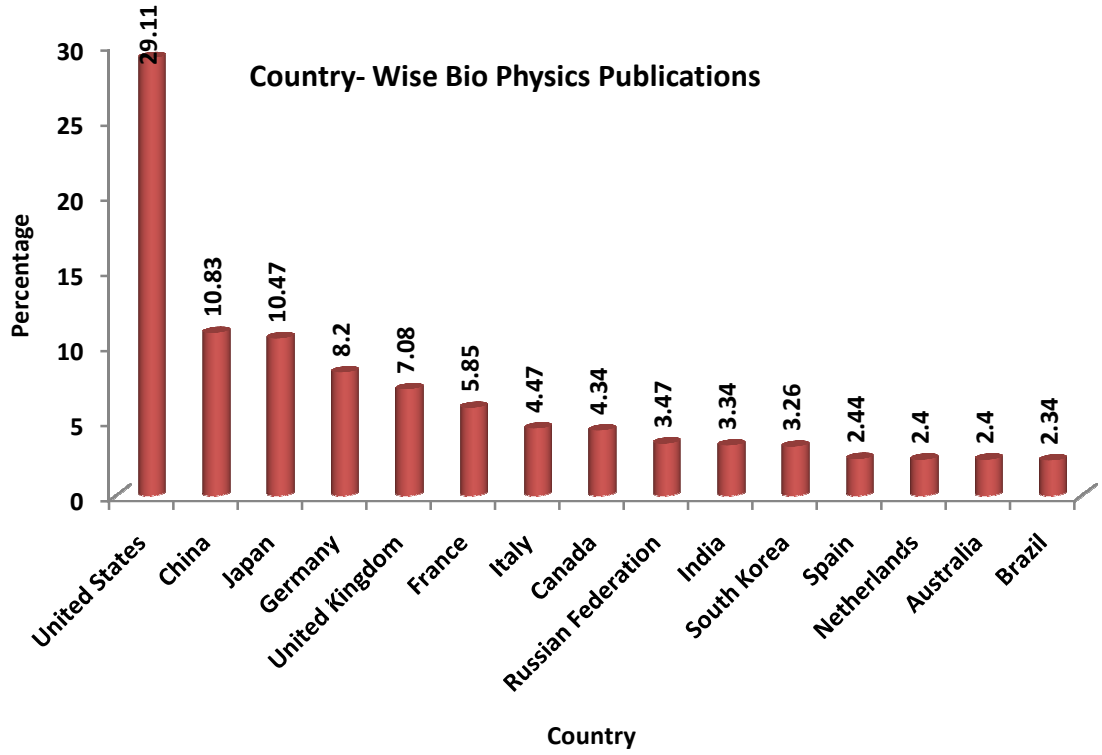
The above Table shows that the country-wise distribution of Bio Physics publications from top 15 countries. From 1996 to 2015, totally 301128 articles were published which are indexed in scimago database. Among the publications, maximum of 87666 (29.11%) articles published by United States and followed by China with 32609 (10.83%) publications.



COUNTRY-WISE DISTRIBUTION OF BIO PHYSICS CITABLE DOCUMENTS

Table 2.Country- wise Distribution of Bio Physics Citable Documents

S. No.	Country	Bio Physics Citable Documents	%
1	United States	85700	29.01
2	China	32226	10.91
3	Japan	31217	10.57
4	Germany	24149	8.17
5	United Kingdom	20765	7.03
6	France	17233	5.83
7	Italy	13154	4.45
8	Canada	12808	4.34
9	Russian Federation	10353	3.50
10	India	9876	3.34
11	South Korea	9698	3.28
12	Spain	7194	2.44
13	Netherlands	7070	2.39
14	Australia	7022	2.38
15	Brazil	6970	2.36
	Total	295435	100

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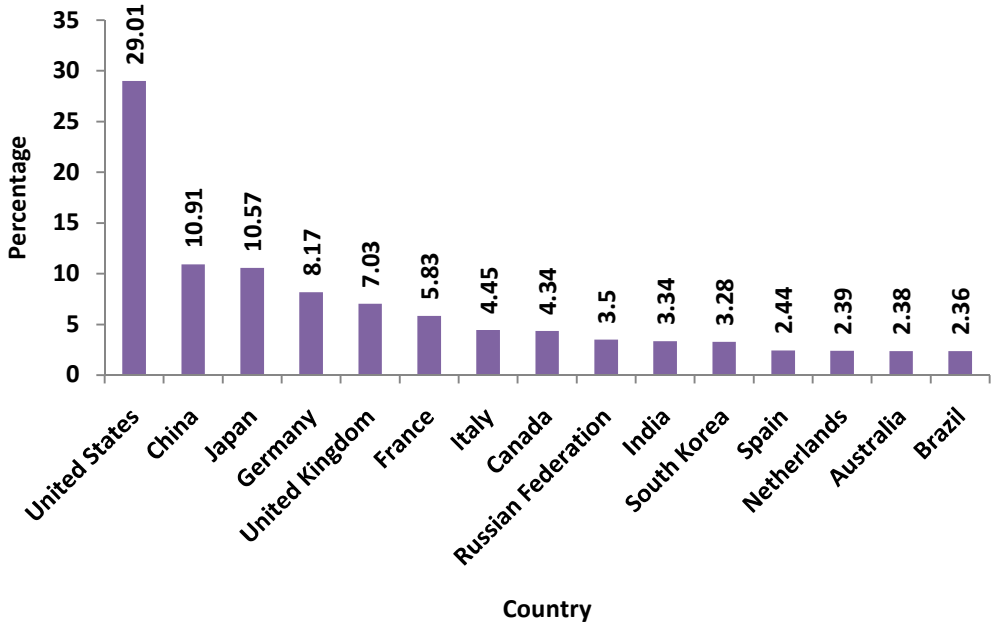
The above Table presents the country-wise distribution of Bio Physics citable documents (includes articles, reviews and conferences papers), from top 15 countries from 1996 to 2015, 295435 citable documents were available which are indexed in Scimago database. Among the citable documents maximum of 85700 (29.01%) by United States followed by China with 32226 (10.91%) and India contributed 9876 (3.34%) citable documents.

Country- wise Distribution of Bio Physics Citable Documents



COUNTRY-WISE DISTRIBUTION OF BIO PHYSICS CITATIONS

Table 3.Country -wise Distribution of Bio Physics Citations

S. No.	Country	Bio Physics Citations	%
1	United States	2384163	35.99
2	China	416941	6.29
3	Japan	707362	10.68
4	Germany	600425	9.06
5	United Kingdom	560446	8.46
6	France	362641	5.47
7	Italy	278743	4.21
8	Canada	309143	4.67
9	Russian Federation	101300	1.53
10	India	122648	1.85
11	South Korea	172497	2.60
12	Spain	146909	2.22
13	Netherlands	215098	3.25
14	Australia	150457	2.27
15	Brazil	96354	1.45
	Total	6625127	100

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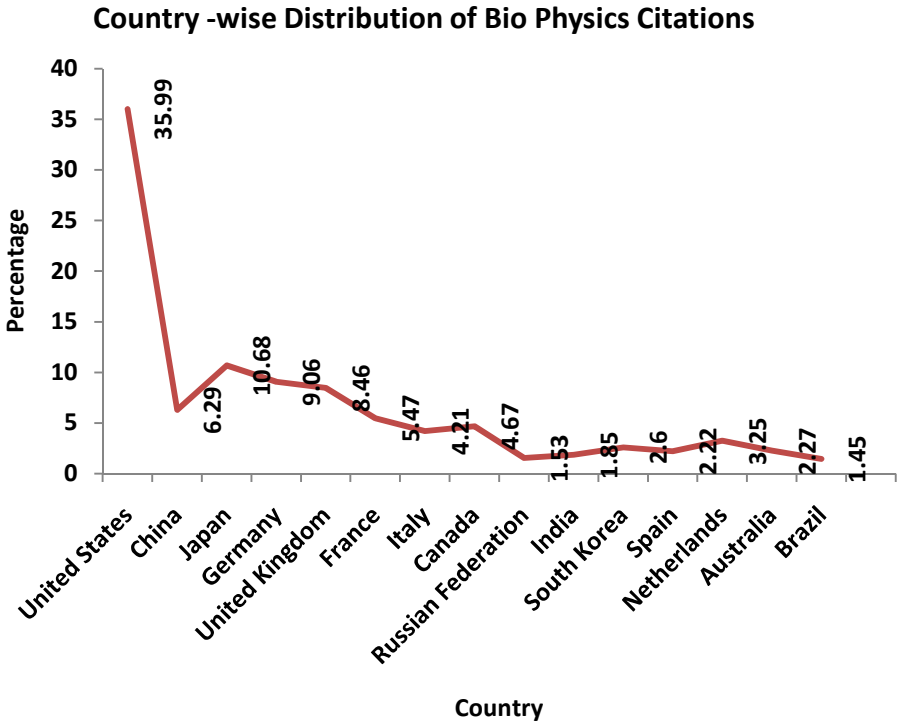
The above Table presents the country-wise distribution of Bio Physics citations, from top 15 countries from 1996 to 2015**.** Among the citations maximum of 2384163 (35.99%) by United States followed by Japan with 707362 (10.68%) and Germany citation is 600425 (9.06%).



COUNTRY-WISE DISTRIBUTION OF SELF CITATIONS

Table 4.Country-wise Distribution of Sef Citations

S. No.	Country	Bio Physic self Citations	%
1	United States	1106250	49.66
2	China	200501	9.00
3	Japan	194736	8.74
4	Germany	155883	7.00
5	United Kingdom	117936	5.29
6	France	81534	3.66
7	Italy	67645	3.04
8	Canada	63684	2.86
9	Russian Federation	28388	1.27
10	India	41253	1.85
11	South Korea	35633	1.60
12	Spain	33457	1.50
13	Netherlands	35759	1.61
14	Australia	30358	1.36
15	Brazil	34833	1.56
	Total	2227850	100

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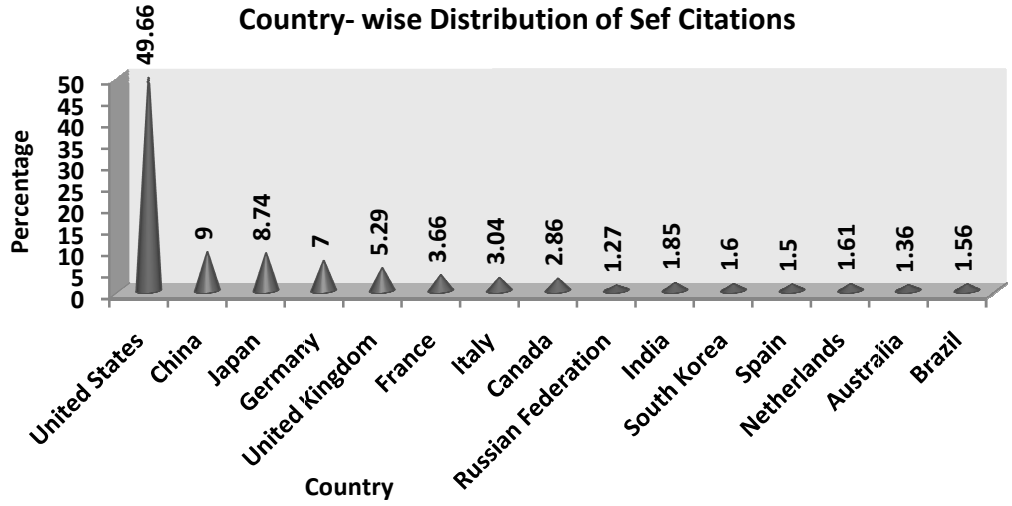
The above Table reveals that the country -wise distribution of Bio Physics self citations, from top 15 countries from 1996 to 2015. Among the Bio Physics self citations maximum of 1106250 (49.66%) by United States followed by China with 200501 (9.0%) and Japan self citation is 194736 (8.74%).



RANKING OF COUNTRY- WISE CITATIONS PER DOCUMENT

Table 5.Ranking of Country -wise Citations Per Document

S. NO	Country	Citations Per Document	Ranking
1	United States	27.2	II
2	China	12.79	XIII
3	Japan	22.44	VI
4	Germany	24.32	IV
5	United Kingdom	26.28	III
6	France	20.58	IX
7	Italy	20.7	VIII
8	Canada	23.63	V
9	Russian Federation	9.7	XV
10	India	12.2	XIV
11	South Korea	17.58	XI
12	Spain	20.03	X
13	Netherlands	29.75	I
14	Australia	20.83	VII
15	Brazil	13.67	XII

The above Table depicts that the ranking of country- wise distribution of citations per document (Average citations to documents published during 1996-2015), from top 15 countries**.** Among the citations per document study Netherlands in first rank with 29.75 followed by United States with 27.20 and United Kingdom with 26.28 citations per document used.

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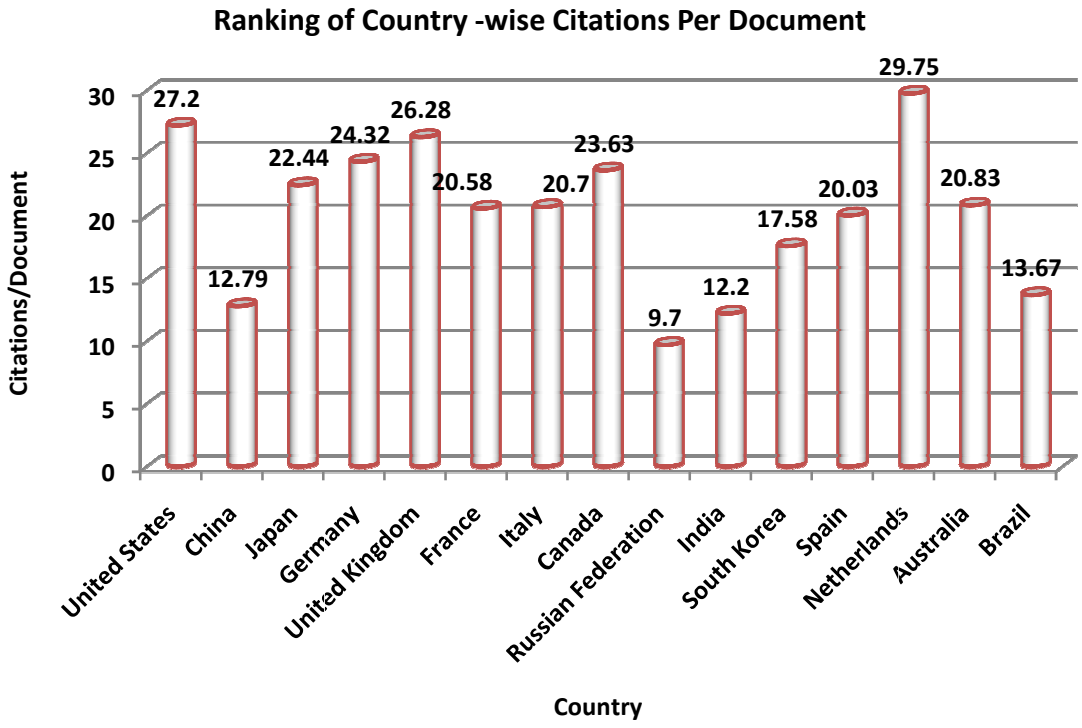

RANKING COUNTRY-WISE DISTRIBUTION OF H INDEX

Table 6.Ranking Country-wise Distribution of H Index

S.NO	Country	H Index	Ranking
1	United States	346	I
2	China	167	VI
3	Japan	207	III
4	Germany	201	IV
5	United Kingdom	215	II
6	France	173	V
7	Italy	151	IX
8	Canada	167	VII
9	Russian Federation	102	XIV
10	India	109	XIII
11	South Korea	126	XI
12	Spain	122	XII
13	Netherlands	153	VIII
14	Australia	131	X
15	Brazil	93	XV

The data presented in the above table shows that the ranking of country- wise distribution of H Index (country's number of articles (h) that have received at least h citations) the United States is in the first rank with 346 H indexes followed by United Kingdom with 215 H indexes and Japan is in third rank with 207 H indexes.

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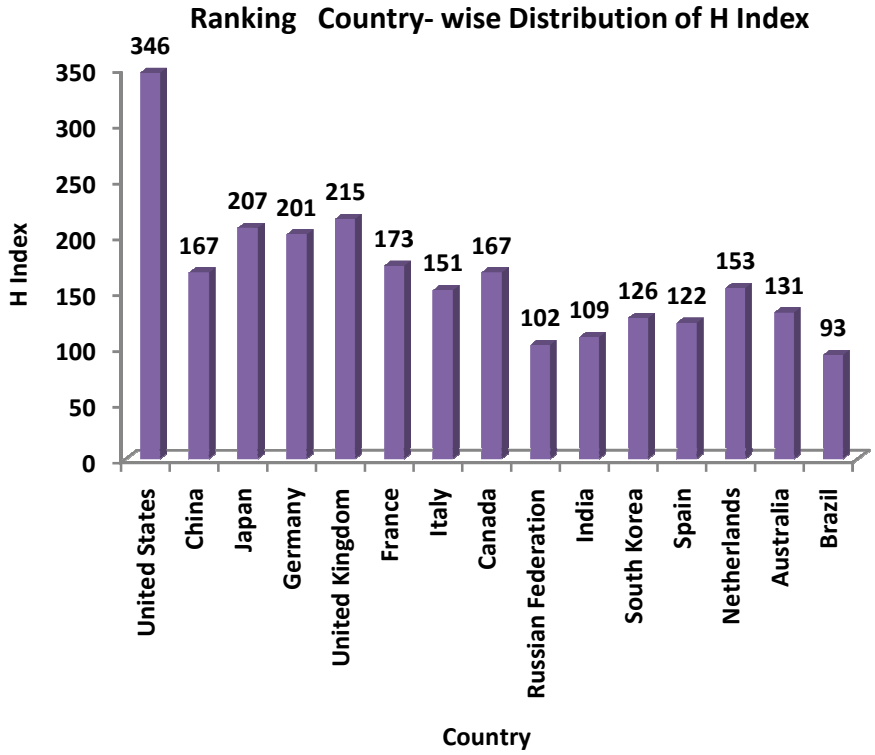

CONCLUSION

The quality and quantity of research are made obtainable through indexing journals with citations of various articles. There is lacking, for providing citations to other articles which authors cite. For analyzing the previous articles which are very much important for supporting your article value added point for publishing. It is a good practice to give self citation for their previous works and it follows up of the previous one and improved one. During the study period from 1996 to 2015, totally 301128 articles were published maximum of 87666 (29.11%) articles by United States and followed by China with 32609(10.83%) publications. The present study proves that the maximum number of citable documents 85700 (29.01%) by United States followed by China with 32226 (10.91%) and India contributed 9876 (3.34%) citable documents. The study reveals that maximum number of citations 2384163 (35.99%) by United States followed by Japan with 707362 (10.68%) and Germany citation is 600425 (9.06%).The above study shows that the maximum number of self citations 1106250 (49.66%) by United States followed by China with 200501 (9.0%) and Japan self citation is 194736 (8.74%).Among the citations per document study, Netherlands in first rank with 29.75 followed by United States with 27.20 and United Kingdom with 26.28 citations per document used. The H Index study shows that United States is in the first rank with 346 H indexes followed by United Kingdom with 215 H indexes and Japan is in third rank with 207 H indexes.

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