The new Scopus CiteScore formula and the Journal Impact Factor: a look at top ranking journals and middle ranking journals in the Scopus categories of General Physics and Astronomy, Materials Science, General Medicine and Social Sciences

Jamie V. Trapp¹

Published online: 28 July 2020

© Australasian College of Physical Scientists and Engineers in Medicine 2020

Abstract

In June 2020 Elsevier announced that the CiteScore metric of journals underwent a change. This work examines the effect of these changes for 40 journals, chosen from the top five and middle five (ranked by CiteScore) journals in the subject areas of General Physics and Astronomy, Materials Science, Medicine, Social Sciences) and compares to the Journal Impact Factor. It is shown that in the data studied here, the new methodology is less susceptible to influence of the proportion of editorial material in a journal, but tends to favour journals in research fields that publish articles which get cited more quickly.

Keywords Bibliometrics · Scientometrics · Citescore · Journal impact factor · Jif · Citations · Library and information services · Clarivate analytics · Scopus · Journal based metric

Introduction

In June 2020 Elsevier announced that the CiteScore metric of journals has changed [1]. The new CiteScore counts only certain types of documents (articles, conference papers, book chapters, and data papers) in both the numerator and denominator where previously the numerator counted citations to all documents. It also displays a longer citation window in the numerator of 4 years instead of 1 year [1, 2]. This leads to a greater difference between the Scopus CiteScore and the Journal Impact Factor.

Previous studies have examined the difference between the two metrics [3], however with the revised CiteScore there may be significant changes in the correlation. This editorial examines the new CiteScore and some effects of the changes.

Methodology

The Scopus database was accessed to obtain all data except for the Journal Impact Factor (which was sourced from Journal Citation Reports). Several subject areas were selected to represent a range of publishing norms in contemporary research. In each Scopus subject area examined, the five top ranking journals were selected, along with a representative five middle ranking journals, as shown in Table 1. The method of selection of the middle five journals slightly varied between categories, for example in General Physics and Astronomy the five journals with a CiteScore of 2.0 were selected (48th and 49th percentile), for Materials Science the journals at the 50th percentile were selected. In General Medicine the 50th percentile journals with CiteScore 0.8 were selected, but none of these appeared on the Journal Citation Reports database. Due to the fact that the 75th percentile of General Medicine in Scopus was the lowest percentile that returned five consecutively ranked journals that also appeared on Journal Citation Reports, it was determined that comparing the 50th percentile without an Impact Factor was more consistent with the intended purpose of this study than comparing the 75th percentile.

Various data was collected including the breakdown of document types as given in the Scopus database, shown in

✉ Jamie V. Trapp
j.trapp@qut.edu.au

¹ School of Chemistry and Physics, Queensland University of Technology, Brisbane, QLD 4001, Australia

Table 1 Data extracted from scopus for various journals

CiteS- core	Numer- ator 2016– 2019	Denom- inator 2016– 2019	Total docu- ments 2016– 2019	Total cites (total docs)	Document types					Erratum	Conf paper	Note	Other	Cites in 2019 to all eligible articles 2016–2019	Eligible articles 2019	Cites in 2019 to 2019 eligible articles	Cites in 2019 to all docu- ments 2016– 2019
					Article	Editorial	Review	Letter	Other								
General Physics and Astronomy																	
Top 5																	
Reviews of Modern Physics	11,906	157	171	12,040	154	4	3		10					6128	35	445	6131
Physics Reports	10,525	201	206	10,691	0	1	201							5090	50	498	5092
Nature Physics	24,404	660	1270	26,762	623	55	40	139	53		274	86		10,696	125	525	12,058
Reports on Progress in Physics	9776	297	301	9905	67	2	230		2					4639	54	259	4643
ACS Nano	120,222	5126	5338	N/A	5063	38	148	15	74					N/A	1397	3065	
Middle 5 (CiteScore 2.0)																	
Selecta Mathematica, New Series	670	333	340	694	333	3			4					327	76	9	327
International Journal of Modern Physics c	1147	578	584	1162	559	2	3		3	17				545	139	27	545
Australasian Physical & Engineering Sciences in Medicine	696	352	416	772	359	32	12	7	4	1	1			388	123	28	33
Journal of Experimen- tal and Theoretical Physics	1774	898	907	1789	896	1	2		8					833	212	61	833
Fluid Dynamics Research	561	286	297	571	277	8	2		3	7				307	55	39	307
Jounal of Nano Research	681	349	346	712	328	5	1			20		2		355	57	53	356
Materials Science																	
Top 5																	
Nature Materials	40,970	647	1006	44,877	615	46	40	58	56	1	156	123		19,456	170	1065	21,191
Nature Nanotechnol- ogy	34,443	580	1033	36,633	540	60	51	75	44		195	68		16,624	132	798	17,720
Progress in Materials Science	9556	203	203	9699			203							5394	54	456	5394

Table 1 (continued)

	CiteScore	Number of articles 2016–2019	Denominator 2016–2019	Total documents 2016–2019	Total cites (total docs)	Document types					Cites in 2019 to all eligible articles 2016–2019	Eligible articles 2019	Cites in 2019 to 2019 eligible articles	Cites in 2019 to all documents 2016–2019
						Article	Editorial	Review	Letter	Erratum	Conf paper	Note	Other	
Materials Science and Engineering: R: Reports	41.6	2164	52	53	2197	1		52				16	176	1195
Advanced Materials	41.3	219,519	5313	5535	Too large	4646	34	701	68		80	1334	6698	
Middle 5 (50th percentile)														
Fusion Science and Technology	2.6	1302	503	519	1325	327	14	4	3	171		114	26	531
MRS Communications	2.6	1380	533	545	1404	489	2	44	9		1	175	77	843
Korea Australia Rheology Journal	2.5	303	119	121	312	116		2	2	1		25	10	164
ACS Applied Nano Materials (new in 2018)	2.5	4054	1631											
Latin American Journal of Solids and Structures	2.5	1238	504	512	1279	503	3	1	1		4	99	49	667
Medicine														
Top 5														
The Lancet	73.4	122,642	1671	6985		1241	609	411	1717	678	21	2286	22	58,949
New England Journal of Medicine	66.1	152,040	2301			1376	362	879	2772	94	45	407	138	N/A
Nature Reviews Disease Primers	42.2	9616	228	331	10,738	134		92	9	30		66		5593
JAMA—Journal of the American Medical Association	26.3	61,167	2324	5863		1884	447	396	1524	429	48	1135	859	N/A
The Lancet Global Health	23.1	8314	360	1359	8734	358	48	1	303	134	1	514		4928
Middle 5 (50th percentile, CiteScore 0.8)														
Tanzania Journal of Health Research (not in 2019)	0.8	90	113											
Chinese Medical Sciences Journal	0.8	136	172	176	143	146	2	26	1	1		44	4	75

Table 1 (continued)

CiteS- core	Numer- ator 2016– 2019	Denom- inator 2016– 2019	Total docu- ments 2016– 2019	Total cites (total docs)	Document types					Cites in 2019 to all eligible articles 2016–2019	Eligible articles 2019	Cites in 2019 to 2019 eligible articles	Cites in 2019 to all docu- ments 2016– 2019
					Article	Editorial	Review	Letter	Erratum	Conf paper	Note		
Tokai Journal of Experimental and Clinical Medicine	0.8	102	129	102	129							1	45
Postepy Biochemii	0.8	118	155	118	38		117					1	61
The Korean Journal of Gastroenterology	0.8	276	364	284	262	4	102	3		4		8	131
Social Sciences Top 5													
Journal of Industrial Ecology	9.5	3991	419	4435	414	21	5	13	4	1	6	299	2319
Current Opinion in Environmental Sus- tainability	9.3	3456	373	3640		23	373					177	1989
Journal of Social Issues	7.6	1408	185	1494	185		1	3		2		174	625
Human Relations	7.1	1990	281	2350	323	2		1		5	1	137	1333
Social Science Com- puter Review	6.7	1173	174	1371	238	3					14	112	728
Middle 5 (50th percentile)													
Annales: Economies, Societies, Civilisa- tions	0.7	63	89	68	26	3	63					1	27
Empira	0.7	61	87	70	61	2	26					3	40
Psicoperspectivas	0.7	107	157	110	123	1	34					3	65
Negotiation Journal	0.7	76	113	82	109	25	4			1		36	56
Socialni Studia	0.7	41	61	45	61	8						2	27

The numerator and denominator are taken from the CiteScore as displayed for each journal in scopus. 'Total documents' represents all documents, 'eligible articles' represents documents cat-
egorised as articles, reviews, and conference papers by scopus

Table 1. ‘Eligible’ articles were considered to be those that would contribute to the CiteScore as per information provided by Scopus [2], thus in this study they were selected as those articles whose document type in Scopus was classified as Article, Review, or Conference Paper. Some data was not available, for example Scopus was not able to return full results for *ACS Nano*, *New England Journal of Medicine*, and *JAMA-Journal of the American Medical Association* due to the number of articles exceeding the limits of the Citation Report function. Likewise, one journal, *ACS Applied Nano Materials* commenced in 2018 and another, *Tanzania Journal of Health Research* did not show any articles in 2019, thus these journals do not have data covering the entire 2016–2019 period.

Results

Table 1 shows raw data extracted from the Scopus database. It can be seen that the CiteScore varies significantly within the top five journals in each subject area (e.g. from 23 to 75 for General Physics and Astronomy), and the values for the top five Social Sciences journals are very significantly lower than the other categories, reflecting the different publishing and citing practices of social sciences (all less than 10) than in the other categories studied. Medicine, and General Physics and Astronomy have the greatest variations of values within the top five, indicating that these subject areas are dominated by one or two very highly cited journals.

Comparing the top five to middle five for the subject areas, Medicine has the greatest difference between typical CiteScore in the top five versus typical CiteScore in the middle five, again indicating that the subject area may be more skewed to a few very highly cited journals with a longer tail of lesser cited journals. It should be noted that in Medicine none of the middle five Scopus journals appear on Journal Citation Reports and thus an Impact Factor (Table 2) is not available.

The number of eligible published articles (the denominator) varies significantly between journals throughout all categories, for example within General Physics and Astronomy the top five ranges from 157 articles for Reviews of Modern Physics, to 5126 for *ACS Nano*, indicating that the total number of articles (column 3, Table 1) does not particularly impact a journal’s metrics.

CiteScore versus impact factor

Table 2 shows various metrics calculated from the data in Table 1, as well as the 2019 Impact Factor accessed via Journal Citation Reports. Comparing the CiteScore to the Impact factor (CS/IF) for the selected journals (column 3 of Table 2), the CiteScore is 1.69 ± 0.61 (mean and standard

deviation) times that of the Impact Factor. A number greater than 1 indicates a higher CiteScore, and a number less than one indicates a higher Impact Factor. Only four of the selected journals showed a higher Impact Factor; two of these are in the top five medical journals (*New England Journal of Medicine* and *JAMA-Journal of the American Association of Medicine*). All of the top five medical journals had a smaller CF/IF than top five journals in the other subject areas investigated. It is noted that this subject area also had a much lower percentage of eligible documents (last column Table 2), indicating a much higher content of non-eligible items such as editorial material and letters. The other two journals with CF/IF less than one were in the middle five Social Sciences journals (noting that data was not available for other journals in this area).

Effect of early citations

Examining the ‘2019 cites per 2019 eligible articles’ from Table 2, it can clearly be seen that in every category there is a much higher citation rate for current-year articles in the top five journals compared to the middle five journals. Although always lower than the CiteScore, it is an indication that journals which publish papers that are more quickly cited (more topicality) are very likely to also score higher on longer term metrics.

Some articles received citations in the year prior to the publication year, presumably these would be online-first articles appearing on journal websites where the citing article is published before the cited article gets assigned to a journal Issue. In these cases the citations were not counted in the current survey, and in the CiteScore calculation these instances are few and only affect the outcome in the first year of the period (in this case 2016 articles).

4 Year numerator versus 1 year numerator

In 2019 the CiteScore changed the numerator in the calculation to cover citations over the entire period (2016–2019 in the data used here), previously only citations received in the reference year to articles published in the previous 3 years were counted. The effect of this can be seen in Table 2 by comparing the CiteScore to the ‘CiteScore if only using 2019 citations’; note that the inclusion of 2019 articles in the denominator is different to the previous CiteScore where only 2019 citations to 2016–2018 documents were counted.

If only counting citations from the most current year in the numerator (compared to the full 4 years), there would be an average $47.3 \pm 18.2\%$ reduction in the CiteScore. The greatest effect here appears to be in the Social Sciences, indicating that articles tend to get cited a year or more after publication. In the top five for each category there is no

Table 2 Calculated data for each of the journals, using raw data from Table 1

	CiteScore (CS)	Impact Factor (IF)	CS/IF	Numerator 2016–2019	Denominator 2016–2019	CiteScore if only using 2019 citations		CiteScore if using all documents		CiteScore if current year (2019) excluded		2019 articles per 2019 article	% of total documents which are eligible
						Recalculated CiteScore	% of CiteScore	Recalculated CiteScore	% of CiteScore	Recalculated CiteScore	% of CiteScore		
General Physics and Astronomy													
Top 5													
Reviews of Modern Physics	75.8	45.037	1.683	11,906	157	39	51.5	70.4	92.9	47.4	159.9	12.7	91.8
Physics Reports	52.4	25.798	2.031	10,525	201	25.3	48.3	51.9	99	36	145.6	10	99.5
Nature Physics	37	19.256	1.921	24,404	660	16.2	43.8	21.1	57	25.6	144.5	4.2	52.2
Reports on Progress in Physics	32.9	17.032	1.932	9776	297	15.6	47.4	32.9	100	21.1	155.9	4.8	98.7
ACS Nano	23.5	14.588	1.611	120,222	5126	0	0	NA	NA	32.2	73	2.2	97.6
Middle 5 (CiteScore 2.0)													
Selecta Mathematica, New Series	2	1.053	1.899	670	333	1	50	2	100	1.3	153.8	0.1	97.9
International Journal of Modern Physics C	2	1.228	1.629	1147	578	0.9	45	2	100	1.4	142.9	0.2	99.1
Australasian Physical & Engineering Sciences in Medicine	2	1.161	1.723	696	352	1.1	55	1.9	95	1.3	153.8	0.2	89.4
Journal of Experimental and Theoretical Physics	2	1.152	1.736	1774	898	0.9	45	2	100	1.4	142.9	0.3	99
Fluid Dynamics Research	2	0.918	2.179	561	286	1.1	55	1.9	95	1.1	181.8	0.7	96.3
Journal of Nano Research	2	1.238	1.616	681	349	1	50	2.1	105	1.1	181.8	0.9	98
Materials Science													
Top 5													
Nature Materials	63.3	38.663	1.637	40,970	647	30.1	47.6	44.6	70.5	45.1	140.4	6.3	59.9
Nature Nanotechnology	59.4	31.538	1.883	34,443	580	28.7	48.3	35.5	59.8	39.8	149.2	6	57.2
Progress in Materials Science	47.1	31.56	1.492	9556	203	26.6	56.5	47.8	101.5	27.9	168.8	8.4	100
Materials Science and Engineering: R: Reports	41.6	26.625	1.562	2164	52	23	55.3	41.5	99.8	26.9	154.6	11	98.1
Advanced Materials	41.3	27.398	1.507	219,519	5313	0	0	NA	NA	55.2	74.8	5	96.6
Middle 5 (50th percentile)													
Fusion Science and Technology	2.6	1.874	1.387	1302	503	1.1	42.3	2.6	100	2	130	0.2	96.7
MRS Communications	2.6	1.997	1.302	1380	533	1.6	61.5	2.6	100	1.5	173.3	0.4	97.8
Korea Australia Rheology Journal	2.5	NA		303	119	1.4	56	2.6	104	1.5	166.7	0.4	98.3
ACS Applied Nano Materials (new in 2018)	2.5	NA		4054	1631	0	0	NA	NA	2.5	100	NA	

Table 2 (continued)

	CiteScore (CS)	Impact Factor (IF)	CS/IF	Numerator 2016–2019	Denominator 2016–2019	CiteScore if only using 2019 citations		CiteScore if using all documents		CiteScore if current year (2019) excluded		2019 articles per 2019 article	% of total documents which are eligible
						Recalculated CiteScore	% of CiteScore	Recalculated CiteScore	% of CiteScore	Recalculated CiteScore	% of CiteScore		
Latin American Journal of Solids and Structures	2.5	1.256	1.99	1238	504	1.3	52	2.5	100	1.4	178.6	0.5	98.4
Medicine													
Top 5													
Lancet	73.4	60.392	1.215	12,2642	1671	35.3	48.1	NA	NA	50.3	145.9	9	24
New England Journal of Medicine	66.1	74.699	0.885	152,040	2301	NA	NA	NA	NA	NA	NA	10.5	37.9
Nature Reviews Disease Primers	42.2	40.689	1.037	9616	228	24.5	58.1	32.4	76.8	23.4	180.3	2	68.3
JAMA—Journal of the American Medical Association	26.3	45.54	0.578	61,167	2324	NA	NA	0	0	NA	NA	2.9	34.6
The Lancet Global Health	23.1	21.587	1.07	8314	360	13.7	59.3	6.4	27.7	14	165	4.4	26.5
Middle 5 (50th percentile, CiteScore 0.8)													
Tanzania Journal of Health Research (not in 2019)	0.8	NA		90	113	0	0	NA	NA	0.8	100	NA	
Chinese Medical Sciences Journal	0.8	NA		136	172	0.4	50	0.8	100	0.5	160	0.1	97.7
Tokai Journal of Experimental and Clinical Medicine	0.8	NA		102	129	0.3	37.5	0.8	100	0.5	160	0	100
Postepy Biochemii	0.8	NA		118	155	0.4	50	0.8	100	0.5	160	0	100
The Korean Journal of Gastroenterology	0.8	NA		276	364	0.4	50	0.8	100	0.5	160	0.1	97.1
Social Sciences													
Top 5													
Journal of Industrial Ecology	9.5	6.539	1.453	3991	419	5.2	54.7	9.6	101.1	5.9	161	2.8	90.3
Current Opinion in Environmental Sustainability	9.3	5.658	1.644	3456	373	5.2	55.9	9.2	98.9	5.2	178.8	2.1	94.2
Journal of Social Issues	7.6	2.483	3.061	1408	185	3.4	44.7	7.8	102.6	5.9	128.8	3.3	97.4
Human Relations	7.1	3.632	1.955	1990	281	4.7	66.2	7.1	100	4	177.5	1.2	97.3
Social Science Computer Review	6.7	2.696	2.485	1173	174	4.1	61.2	5.4	80.6	6.9	97.1	1	93.3
Middle 5 (50th percentile)													
Annales: Economies, Societies, Civilisations	0.7	NA	NA	63	89	0.3	42.9	0.8	114.3	0	NA	0.1	96.7

Table 2 (continued)

	CiteScore (CS)	Impact Factor (IF)	CS/IF	Numerator 2016–2019	Denominator 2016–2019	CiteScore if only using 2019 citations		CiteScore if using all documents		CiteScore if current year (2019) excluded		2019 cites per article	% of total documents which are eligible
						Recalculated CiteScore	% of CiteScore	Recalculated CiteScore	% of CiteScore	Recalculated CiteScore	% of CiteScore		
Empirica	0.7	0.89	0.787	61	87	0.5	71.4	0.8	114.3	0	NA	0.1	97.8
Psicoperspectivas	0.7	NA	NA	107	157	0.4	57.1	0.7	100	0.3	233.3	0.1	99.4
Negotiation Journal	0.7	0.192	3.646	76	113	0.5	71.4	0.6	85.7	0.3	233.3	0.9	81.3
Socialni Studia	0.7	NA	NA	41	61	0.4	57.1	0.7	100	0.3	233.3	0.2	88.4

re-ordering of the rank of journals apart from one instance in Social Sciences where the journal would shift downwards relative to others (*Journal of Social Issues*). Conversely, in the middle five journals for each category there would be significant re-ordering, however it is noted that the CiteScore and Impact Factors for middle five journals vary very little compared to those amongst the top five in each category, thus small changes result in a greater re-ordering.

Effect of article types

Comparing ‘CiteScore if using all documents’ to the CiteScore (which only uses eligible documents) (Table 2) indicates the reduction or increase in CiteScore if editorial type documents are included in the calculation rather than only eligible documents (e.g. similar to the previous CiteScore methodology compared to the new methodology). All of the journals where the CiteScore would reduce to below 90% of its current value by including editorial material (except one) appear in the Top five lists and there appears to be a correlation between the reduction and the proportion of eligible documents within a journal.

Many journals do not have data due to the large number of documents and the limits of the Scopus citation overview function as stated above, however some notes can be made. For example, *Nature Physics*, *Nature Nanotechnology* and *The Lancet Global Health*, all appearing as top five journals, would be most affected, and have the lowest percentage of eligible documents of the journals for which this metric can be calculated. It is noted that two of these journals are within the top five medical journals, while the three remaining top five General Medical journals from this area do not have available data.

There are also indicators that documents might be categorised quite differently amongst journals, and naming may be confusing. For example, for *Australasian Physical & Engineering Sciences in Medicine*, under the Notes category Scopus includes items such as an introduction to conference abstracts [4], whereas technical notes, educational notes and scientific notes, which are all peer reviewed scientific articles, are counted as articles [5–9] despite the naming. Thus, the nomenclature of article types themselves may lead to unintended effects on CiteScore.

Discussion

Table 1 shows that the journals that fall into the top 5 for each subject area had significant variations in the total number of articles used in the CiteScore calculations, indicating that a high ranking for a journal is not particularly dependent upon the number of articles published. However, the

proportion of eligible to non-eligible articles (e.g. greater amount of editorial material) shows that highly ranked journals tend to have a much larger proportion of editorial material than do middle ranked journals in the areas studied, apart from Social Sciences. There has been recent discussion about whether the inclusion of larger amounts of editorial material leads to improved metrics due to the fact that editorial material is included in the numerator but not the denominator [10], and certainly the data here supports that argument for the Impact Factor (noting that the breakdown of document types here is taken from Scopus, and not Web of Science).

The new CiteScore methodology, which presumably aims to alleviate this issue does achieve this to some degree. The CS/IF for top five medical journals was much lower in general than other journals studied here, and is likely directly related to the lower percentage of eligible documents in these journals (or more correctly, the greater amount of editorial material). The lower CF/IF reflects the fact that the CiteScore is more resistant than Journal Impact Factor to increasing metrics through editorial material, and appears to reinforce recent discussion regarding the numerator and denominator of the Impact Factor [10].

To complicate matters, documents of a scientific nature may be disregarded through incorrect categorisation, for example some journals count small but significant articles as Letters (e.g. Nature). A Letter, which is scientific, may inadvertently be treated as a Letter to the Editor (which is editorial material) in the current system. For example, in the current survey *New England Journal of Medicine* has 2772 Letters (twice as many as articles (1376) letters but none of these are included in the CiteScore, and similarly *The Lancet* has 1717 letters (compared to 1376 articles), and this may affect the accuracy of what the CiteScore attempts to measure.

The data shows that journals which publish articles that are more likely to quickly gain citations will consistently also gain greater numbers of citations throughout the longer term and thus have higher metrics. This trend appears to be consistent for all journals (both top five and middle five for all subject areas).

The impact of the change of the numerator from a single year to the full 4 years of the survey period appears to be roughly consistent across the board, in that there is an increase in CiteScore but there is not significant reshuffling of the ranking of journals. The inclusion of the latest year in the numerator as well as the denominator means that articles that are cited soon after their publication, will cause the CiteScore of a journal to increase. A possible side-effect of this is that editors may start holding off publishing articles which would normally be published later in the year, to publication early in the following year to capture more citations.

Conclusion

The change of the CiteScore methodology results in an overall increase in the CiteScores for most journals, and potential reshuffling of individual journal ranks between journals with very close CiteScores to each other (middle ranked journals), however where journals are at the top of the subject area there appears to be very little reshuffling due to the greater difference in scores between neighbouring journals.

The CiteScore appears to be less prone to variation due to the amount of editorial material in a journal in comparison to the Impact Factor, however it is not completely immune. Potentially, in the future, journals with greater amount of editorial material could result in a higher Impact Factor, which will in turn encourage higher citing papers, which will then lead to increased CiteScore.

The inclusion of the latest year in the numerator as well as the denominator favours journals that publish manuscripts which are more quickly cited. This will lead to differences between subject areas, for example, in research fields that can respond quickly to topical research (e.g. simulation or computation based fields) this will be favourable, but for other research which is more experimental and time-intensive there may be a reduction in relative ranks. This can also occur within a particular field, for example in General Physics and Astronomy there is a large variety of journals which are scoped to specific physics topics, some of which are computational and some of which require longer term commitment to publish a single paper [11].

In this study different subject areas show different publishing trends and hence citation characteristics due to the nature of the research involved. For example, Social Sciences tends to overall lower citations per article, Medicine has the greatest variation between journals with in the category and greater amount of editorial material, Physics and Materials Science appear to have similar, but there is content overlap in these fields and many journals appear in both categories.

References

1. Scopus (2020) CiteScore 2019 now LIVE! 3 July 2020. <https://blog.scopus.com/posts/citescore-2019-now-live>
2. Scopus (2020) How are CiteScore metrics used in Scopus? 22 June 2020. https://service.elsevier.com/app/answers/detail/a_id/14880/supporthub/scopus/
3. Okagbue HI, Teixeira da Silva JA (2020) Correlation between the citescore and journal impact factor of top-ranked library and information science journals. *Scientometrics* 124:797–801
4. Nil EPSM (2019) 2018, Engineering and physical sciences in medicine: 2018, Adelaide Convention Centre, Adelaide, Australia. *Australas Phys Eng Sci Med* 42(1):285–401

5. Butson M, Butson E, Morales J, Hill R (2019) Skin and build up dose determination for a 2.5 MV medical linear accelerator imaging beam. *Australas Phys Eng Sci Med* 42:1177–1181
6. Shin JS, Choi H, Shin HJ, Kim SW, Park HW, Kim J, Kim A, Hwang J, Seol Y, Oh T, Jang HS, Choi BO, Kang YN (2019) Verification of lithium formate monohydrate in 3D-printed container for electron paramagnetic resonance dosimetry in radiotherapy. *Australas Phys Eng Sci Med* 42(811):818
7. Eichhorn S, Reisinger T, Bohm J, Voss S, Doppler S, Lange R, Krane M (2019) Development and validation of a measurement system for continuously monitoring postoperative reservoir levels. *Australas Phys Eng Sci Med* 42:611–617
8. Kairn T, Crowe SB (2019) Application of retrospective data analysis to clinical protocol design: can the potential benefits of breath-hold techniques for breast radiotherapy be assessed without testing on patients? *Australas Phys Eng Sci Med* 42:227–233
9. Asena A, Nilsson S, Smith ST, Kairn T, Crowe SB, Trapp JV (2018) A method for obtaining three-dimensional measurements of HDR brachytherapy dose distributions using fricke gel dosimeters and optical computed tomography. *Australas Phys Eng Sci Med* 42(1):221–226
10. Davis P (2016) Citable items. The contested impact factor denominator. <https://scholarlykitchen.sspnet.org/2016/02/10/citable-items-the-contested-impact-factor-denominator/>
11. Trapp JV (2016) Web of science, scopus, and google scholar citation rates: a case study of medical physics and biomedical engineering: what gets cited and what doesn't? *Australas Phys Eng Sci Med* 39(4):817–823

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.