Some Features of the Citation Counts from Journals Indexed in Web of Science to Publications from Russian Translation Journals

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Introduction

As it was emphasized by Moed, H.F., Glänzel W. & Schmoch U. (2005) in their editors' introduction to the *Handbook of Quantitative Science and Technology Research*: "A most important data source for analysis of the science system is the *Science Citation Index* (SCI) and related Citation Indexes published by the *Institute for Scientific Information* (ISI–Thomson Scientific, Philadelphia, PA, USA), or, in a more recent version, ISI's *Web of Science*." Due to this very competent opinion (supported of course by major part of scientists all over the world) it is very important for proper evaluation of the science and its development in Russia to investigate how publications in Russian journals indexed in SCI and how citations to these publications were counted and recorded in SCI in previous decades and is counted and recorded now in Web of Science (WoS).

Some systematic problems with proper indexing and correct counting of citations to publications in Russian journals in SCI was revealed by brilliant founder of modern bibliometrics ("statistical bibliography") Eugene Garfield long time ago in 1974. The greatest problems (according to Garfield) occurred with so-called "translation journals": "The term Russian journals is used here as it is daily used in libraries in the United States. We are aware of its inadequacy and inaccuracy, but plead its convenience. A few of the journals are Slavic, but not Russian. The term Soviet journals might seem more appropriate, but it would not be. An important group of the journals considered is published outside the Soviet Union the so-called translation journals. Neither Russian nor Soviet, they are nevertheless the product of Russian and Soviet research. They also present, as we learned in this study, a formidable stumbling block in journal citation analysis of this type. I speak here only in terms of statistical bibliography as regards the translation journals." (Garfield, 1974).

What was (and is now) the biggest problem with indexing and counting of citations of the "translation journals"? It was (and is now) the adopted by SCI (now Web of Science) policy of the counting of citations to original publications (articles, published in Russian) and to the English version of the same article, published in "translation journals". As it was found in the present research this policy were changed several times during the period of SCI existence and this policy can significantly affect the conclusions, which could be made about Russian science in many analytical reports and investigations, based on *Web of Science* data (see, for example, Albarrán et al., 2013).

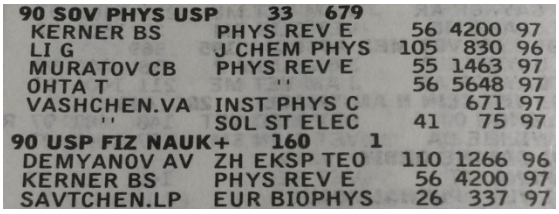
In this research we studied the style (the policy) of records for publications from Russian (and translation) journals and counting of citations to them in printed volumes of SCI in 1960-1998 years and compared these styles with the policy, adopted in the internet version of the successor of SCI (WoS) in 1990-es and now. It is possible to say after this investigation, that significant (sometimes huge) amount of citations (from the journals indexed in WoS) to Russian publications are not possible to find in WoS now without some complicated additional search. All these citations are not taken into account in many analytical reports about Russian science (especially about natural science such as physics, chemistry, biology etc.). At the same time it is not very difficult now to return back to the Garfield's old policy of records and calculations of the citations to Russian publications in translation journals, which could collect properly all citation using new possibilities of Internet linking of publications. (See, for example, UFN journal's web-site www.ufn.ru on which the citing articles are collected using CrossRef system (using Digital Objects Identifier - DOI) or www.mathnet.ru site for more precise and elegant citations collecting (Zhizhchenko & Izaak, 2009; Chebukov et al, 2013)).

Methodology and data

We compared the number of citations to an article published in "Uspekhi Fizicheskikh Nauk" (UFN) journal (or to the English translation to the same article published in "Physics-Uspekhi" (former "Soviet Physics-Uspekhi" journal until 1992 year) ─ cover-to-cover English translation of UFN journal) presented in printed volumes of SCI with the number of citations to the same article presented in Web of Science (on-line version) and with the number of citations, which could be found using CrossRef links (DOI) on www.mathnet.ru and/or www.ufn.ru web-sites (see details in Aksenteva, Kirillova & Moskaleva, 2013).

Results and discussion

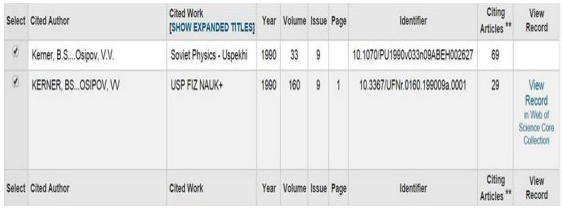
Let's consider (as a typical example) an article (Kerner & Osipov, 1990). First of all we have found that in printed volume of SCI (see Fig. 1) both Russian original article and its English translated version were indexed (citations to them were collected separately, but all citations were displayed, see Figure 1):



90 SOV PHYS USP		33	679		
KERNER BS	PHYS REV E	56	4200	97	
LI G	J CHEM PHYS	105	830	96	
MURATOV CB	PHYS REV E	55	1463	97	
OHTA T	''	56	5648	97	
VASHCHEN.VA	INST PHYS C		671	97	
''	SOL ST ELEC	41	75	97	
90 USP FIZ NAUK+		160	1		
DEMYANOV AV	ZH EKSP TEO	110	1266	96	
KERNER BS	PHYS REV E	56	4200	97	
SAVTCHEN.LP	EUR BIOPHYS	26	337	97	

Figure 1. Copy from SCI (1997) for Kerner B.S.

But now in WoS (internet version) we cannot find citations to the English version of this article. It is possible to find them only by using the WoS's option "Cited References Search" (see Figure 2).



Select	Cited Author	Cited Work [SHOW EXPANDED TITLES]	Year	Volume	Issue	Page	Identifier	Citing Articles **	View Record
✓	Kerner, B.S....Osipov, V.V.	Soviet Physics - Uspekhi	1990	33	9		10.1070/PU1990v033n09ABEH002627	69	
✓	KERNER, BS...OSIPOV, VV	USP FIZ NAUK+	1990	160	9	1	10.3367/UFNr.0160.199009a.0001	29	View Record in Web of Science Core Collection
Select	Cited Author	Cited Work	Year	Volume	Issue	Page	Identifier	Citing Articles **	View Record

Figure 2. Cited references search in WoS core collection for article Kerner B.S. &Osipov, 1990.

It is possible to see on this figure, that there are 29 citations to the Russian version of this article and 69 citations to the English version of the article, but (unfortunately for the Russian journal) it is possible to view citing articles for the Russian version only (only 29 citing articles). 69 citations to the English version of this article are not taken into account in Prof. Kerner's (and of course for Prof. Osipov too) citation report, are not included into their Hirsh's indexes, are not taken into account for his laboratory and his institute bibliometrics etc. (and for Russian physics and science in general). On our web-site using CrossRef links it is possible to find 70 citing article: http://ufn.ru/ru/articles/1990/9/a/.

It is necessary to mention that for publications in UFN journal until September 2001 only citations to the Russian version are presented in WoS (but citations to the English version are not taken into account). We have checked more than one thousand articles (published in 1990-2000 years in UFN) and have found that about 67% of citations (in average) to these articles were not presented now directly in WoS (and so do not taken into account for any analytical scientometric report). According to WoS in 1990-2000 years 1190 articles were published in UFN (and indexed in WoS) and they have only 9002 citations (on April 25, 2015). Using DOI on our website we have found 14973 citations to 1167 articles, published in UFN in the same period.

Conclusions

It was found that now WoS show less than half of citations (from journals indexed in WoS) to described above article (Kerner, Osipov, 1990), but this is not an exceptional example. So all publications in Russian translated journals (indexed in WoS) lose a lot of their absolutely correct citations (about 60% in average) from journals indexed in WoS and therefore scientometrics, based on WoS direct data, underestimates the real impact of Russian scientists and science in general.

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References

Aksenteva, M.S., Kirillova, O.V., & Moskaleva, O.V., (2013) On Paper Citation by Web of Science and Scopus From Translated Russian Journals (in Russian), *Nauchnaya periodika: problemy i resheniya* [Scientific periodical press: problems & solutions], No. 4(16), 4-18. Retrieved January 18, 2015 from http://ufn.ru/tribune/trib124.pdf

Albarrán, P., Perianes-Rodriguez, A., & Ruiz-Castillo, J. (2013). Differences in citation impact across countries. In *Proceedings of the 14th International Society of Scientometrics and Informetrics Conference, Vienna, Austria*. Vol. 1, p. 536. Retrieved January 18, 2015 from http://www.issi2013.org/Images/ISSI_Proceedings_Volume_I.pdf

Chebukov, D., Izaak, A., Misurina, O., Pupyrev, Yu. & Zhizhchenko, A., (2013) "Math-Net.Ru as a digital archive of the Russian mathematical knowledge from the XIX century to today", *Lecture Notes in Computer Science*, 7961 (Ed. J. Carette et al.) 344–348, arXiv: 1305.5655.

Garfield, E. (1974) "Russian Journal References and Citations in the Science Citation Index Databank". In *Journal Citation Studies*, 22. Philadelphia: ISI. Retrieved 01/18/ 2015 from: http://www.garfield.library.upenn.edu/papers/244.html

Kerner, B.S., Osipov, V.V. (1990) *Usp. Fiz. Nauk* 160 (9) 1–73 [*Sov.Phys.Usp.* 33 (9) 679–719]

Moed, H.F., Glänzel W. & Schmoch U. (Eds.) (2005) Handbook of Quantitative Science and Technology Research. The Use of Publication and Patent Statistics in Studies of S&T Systems, Dortrecht: Kluwer Academic Publishers.

Zhizhchenko A.B. & Izaak A.D. (2009) "The information system Math-Net.Ru. Current state and prospects. The impact factors of Russian mathematics journals", *Russian Math. Surveys*, 64**,** 4.