Bibliometric and statistical analyses of Ukrainian scientific journals. Physics journals

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Abstract

The present work is devoted to evaluation of the Ukrainian physics journals on the basis of Pareto distribution and a comparison of the present situation with that occurring five years ago. It is shown that about 20 journals may be qualified as principal ones, though the total number of the corresponding editions is equal to 63. The criteria for evaluation of Ukrainian scientific journals are formulated.

1. Introduction

It is known that the monitoring of scientific journals is significantly based on calculations of their scientific citation index (further on, we use a simpler form 'scitation index') available through Thomson-Reuters ISI [1–4]. The scitation index or the impact factor [5] is determined as a ratio of the number of scitations of articles in a given journal, which have been published in this year, to the total number of articles published in that journal during two recent years (the two-year impact factor) or five recent years (the five-year impact factor). Besides, there are some other parameters used by Thomson-Reuters ISI for evaluation of journals, namely the immediacy index, the cited half-life, etc.

A similar technique for journals evaluation has recently been introduced by the Scopus database [6]. In the latter case, such parameters as a source-normalised impact per article and SCImago journal rank are used [7, 8]. Before our earlier studies on the topic [9–11], evaluation of scientific journals in Ukraine has been performed solely basing on the list confirmed by the Higher Attestation Commission of Ukraine. If a journal belongs to this list, one is permitted to include results published in the journal into his dissertation of Candidate of Sciences or Doctor of Sciences, without additional peer reviewing of his articles. According to our analysis [9–11], the number of these journals and proceedings, in particular in the area of physics, has been high enough (more than 70 items). At the same time, only a few of them have really been included to the international bibliographic databases. Moreover, only four of those journals have had a definite impact factor.

During the last five years the situation with a visibility and recognition of Ukrainian scientific journals has changed to the better. This process has been stimulated by the monitoring of journals and proceedings by the Expert Council on Physics at the Higher

Attestation Commission of Ukraine and, in particular, by the appropriate order of the Higher Attestation Commission of Ukraine (No 29, from 24/01/2009). The latter has been concerned with a revision of the list of journals in which the results of dissertations may be published. Moreover, a scitation analysis has been performed in the work [12] for some specific journals and the Vernadsky National Library of Ukraine has started creating a system for journals evaluation [13]. Anyway, all the attempts directed at improving scientific quality of the Ukrainian journals still remain at their initial stage.

Since only a few of Ukrainian physics journals possess a specified impact factor, this index cannot yet judge about a status of the most part of those journals. This is why we have used in [9–11] a temporary system of journals evaluation, which is based on the criteria that precede appointing of the impact factor. One of these criteria is coverage of journal by the Thomson-Reuters ISI, i.e. inclusion of its issues to the Master journal list. On the other hand, it is known that the selection process by the Thomson-Reuters ISI is based on the following criteria: timeliness of publication, following to the common international editorial conventions, publishing of full texts of articles (or, at least, bibliographical data and abstract) in English, application of peer reviewing procedure, enriching of the database content or its specific topic by a journal under evaluation, international diversity among the contributing authors and the journal's editors and Editorial Advisory Board members, importance of regional scholarship, etc. All these criteria have been used by us when evaluating the Ukrainian scientific journals. Besides, we have paid attention to the fact of whether a journal is included to the Scopus and VINITI databases, or not.

Hence, the following criteria for our evaluation have been used in the studies [9–11]:
1. Coverage of journal by the Thomson Reuters ISI or Scopus databases;
2. Timeliness of publication;
3. Coverage of journal by the VINITI database;
4. Coverage of journal by the database "Ukrainika Naukova";
5. Availability of web-site with the English abstracts;
6. Availability of web-site with the Ukrainian and/or Russian full texts of articles;
7. Availability of web-site with the full texts of articles in English;
8. Possibility of journal subscription via the "Presa" Agency.

Meeting to each criterion might have been evaluated quantitatively by adding a single point to the total journal's score. However, different criteria should obviously have different weights. This is accounted for with introducing relevant weighing coefficients. For example, inclusion of a journal to the Thomson-Reuters ISI database has the weighing coefficient 50, while the same for the Scopus database is somewhat less, 25. The weighting coefficients referred to the remaining criteria (2) – (8) are as follows: 2 – 15, 3 – 5, 4 – 2, 5 – 10, 6 – 10, 7 – 5, and 8 – 3 points, respectively.

Thus, the maximum score can reach 100. The Ukrainian journals with definite impact factors are related to the highest category, **A**, while the journals considered by the Thomson Reuters ISI for the evaluation (i.e., those included to the Master journal list) are

attributed to the category **B**. The journals covered by the Scopus database are collected in the category **C**. To the category **D** we have referred the journals which are republished by foreign Publishing Houses, though are not still covered by the ISI or the Scopus databases. The next category, **E**, includes the journals published in Ukraine in English. Finally, the categories **F**, **G** and **H** consist of the journals with low ($20 \leq N < 50$), very low ($N < 20$) and zero ($N = 0$) scores, respectively.

Nonetheless, the system of evaluation mentioned above is not coupled with the systems of international databases. In other words, it is not clear which total scores correspond to a given impact factor. Besides, this system is not characterised by gradual changes in the journals' scores, i.e. those scores manifest a step-like behaviour. As a consequence, it has been impossible to apply any statistical tools when analysing a real status of journals. Furthermore, some important journal characteristics have not been considered in frame of this system.

The present paper is devoted to analysis of state-of-the-art in the area of Ukrainian physics journals, a comparison with the situation as early as five years ago, and development of the improved system for journals evaluation.

2. Method of analysis

Besides of the earlier criteria, we have added the two newer ones: coverage of journals by the Scopus database as a separate item (the weighting coefficient 25) and publication of journals by distinguished publishing houses (the weighting coefficient 50). In this way the summarised score would better reflect a level of journals integration into the international scientific information field. On the other hand, the process of inclusion of a given journal into the Thomson-Reuters ISI and Scopus databases is also accompanied by journal evaluation from the viewpoint of application of the peer review, and other important criteria. Hence, the summarised score introduced in the present work should improve comprehension of ponderability of a given journal among the other Ukrainian journals and proceedings, as well as a level of its integration into the international scientific databases.

Hereafter, we will call this total score as an *index of ponderability and integration* (IPI). Actually, this index reflects both the international and local Ukrainian requirements. Since the method for journals evaluation used by the Thomson-Reuters ISI is based on the Bradford's law, which in fact follows from the Pareto distribution, we will also use the Pareto distribution in our analysis. Let us remind that, according to the Bradford's law, a relatively small number of journals publish a bulk of significant scientific results. The Pareto distribution can serve as a tool for determining the quantity of journals needed for providing the most of needs. For example, the Pareto principle which is often called as an '80/20 principle' means in our case that 20% of editions provide 80% of needs determined by the cumulative IPI, whereas the remaining 80% of editions provide only 20% of those needs. This statement is sometimes referred to as an 'inequality principle'. The measure of inequality is determined by either the Gini index (G),

$$G = \left| 2A - 1 \right|, \qquad (1)$$

where $A = 0.8$ for the case of 80/20 (0.8/0.2) ratio, or the entropy index (or the Theil one),

$$T = 2G \operatorname{arctanh}(G). \qquad (2)$$

For instance, the entropy is equal to zero when we have the 50/50 distribution.

While analysing the journals rating, we will exclude from our consideration the journals and proceedings with zero IPI. As a first step in plotting the Pareto distribution (in fact, the dependence of the IPI upon the journal number n in a sequence of journals built according to decreasing IPI), we have temporarily excluded the journals with specified impact factors from our consideration. After fitting this dependence with the power law $IPI = An^{\alpha}$ (with A and α being the fitting parameters), the IPI of journals with specified impact factor has also been determined, assuming that these journals occupy the highest positions in the list and arranging them according to decreasing impact factor. Now we introduce the cumulative IPI of the n th journal defined by the relation

$$(IPI_{cum})_n = \sum_{1}^{N} (IPI_{n-1} + IPI_n), \qquad (3)$$

where N is the total number of journals and IPI_n the IPI of the n th journal.

Using this procedure and the Pareto distribution, one can determine that part of journals which provide the main contribution to the cumulative IPI. After that, the results of our analysis corresponding to the situation in February, 2010, have been compared with the earlier data for 2005.

3. Results and discussion

According to the list published by the Higher Attestation Commission of Ukraine, there are 74 specialised journals and proceedings covering the physics sciences in Ukraine. However, only 63 of these editions possess a nonzero IPI. As a result of employing of our classification scheme suggested in our earlier works, 4 journals belong to the category **A** and have specified impact factors: "Low temperature physics" (published by the American Institute of Physics), "Material Science" (Springer), "Metal Physics and Advanced Technologies" (Gordon and Breach Sciences Publishers), "Powder Metallurgy and Metal Ceramic" (Springer), and "Condensed Matter Physics" (Institute of Condensed Matter Physics NAS of Ukraine). Notice that only one of them, "Condensed Matter Physics", is published by a Ukrainian publishing house (see Table 1).

The category **B** consists of 7 journals covered by the Thomson-Reuters ISI database. Besides, 12 journals covered by the Scopus database refer to the categories **A**, **B** and **C**. Half of the journals which belong to these categories are published in Ukraine ("Ukrainian Journal of Physical Optics", "Problems of Atomic Science and Technology", "Dopovidi NAN Ukrainy", "Ukrainian Antarctic Journal", "Ukrainian Journal of Physics", "Nuclear Physics and Atomic Energy", and "Journal of Physical Studies"), while the others are published by the Springer.

Table 1. Journals of Ukrainian origin that belong to the category **A**.

ISSN	Journal title	Impact factor in 2008 according to Thomson-Reuters ISI database	IPI
0132-6414	Low Temperature Physics	0.78	714.94
1607-324X	Condensed Matter Physics	0.488	413.48
1068-1302	Powder Metallurgy and Metal Ceramic	0.201	300.15
1024-1809	Metal Physics and Advanced Technologies	0.107	239.13

The category **D** is represented by a single journal which is published by Springer, "Bulletin of the Crimean Astrophysical Observatory". To the category **E** belong 4 journals issued by Ukrainian publishing houses in English: "Semiconductor physics, Quantum Electronics and Optoelectronics", "Functional Materials", "Photoelectronics" and "Radioelectronics & Informatics Journal". The category **F** consists of 18 journals and proceedings. A shortcoming of these journals is that most of them are not translated into English. 24 proceedings and journals belong to the category **G** (see Table 6). They are neither represented in international bibliographic databases nor translated in English. Moreover, in fact they are not peer-reviewed.

Finally, the category **H** embraces 11 proceedings: "Fizyka Aerodyspersnykh System", "Fizuchnyi Zbirnyk NTSh", "Visnyk Prykarpatskogo Universytetu, Seriya Fizyka", "Visnyk Skhidnoukrainskogo Natsionalnogo Universytetu im. V. Dalya, Seriya Fizyka"; "Meteorologiya, Klimatologiya i Gydrologiya", "Seysmologichnyi Byuleten Ukrainy", "Ekologicheskaya Bezopasnost Pribrezhnoy i Shelfovoy Zon i Kompleksnoye Ispolzovanie Resursov Shelfa", "Odessa Astronomical Publications", "Dinamicheskiye Sistemy", "Visnyk Odeskogo Natsionalnogo Universytetu, Seriya Fizyka", "Fizyka Kondensovanykh Vysokomolekulyarnykh System", and "Elektronna Microskopiya i Mitsnist Materialiv". As a matter of fact, process of publication of these proceedings is discontinuous.

Now let us analyse the changes in the visibility of the Ukrainian journals and proceedings occurring in the five recent years. It is seen from Fig. 1 that the number of the journals with specified impact factors has remained the same. However, "Condensed Matter Physics" has replaced "Izvestiya Vuzov. Radioelektronika" in this list. The number of journals represented in the Thomson-Reuters ISI database has increased from 4 to 11, and 12 journals are covered by the Scopus database. The journal "Bulletin of the Crimean Astrophysical Observatory" has started to be published by the Springer. The number of journals published in English has increased from 13 up to 18 (see Fig. 1). In fact, almost 20 journals which belong to the categories **A–E** are related to the principal Ukrainian physics journals. Unfortunately, the quantity of journals and proceedings of the

category **G** has also increased, when compare with 2005. Hopefully, this has mainly happened at the price of decrease in the number of proceedings belonging to the category **H** (see Fig. 2).

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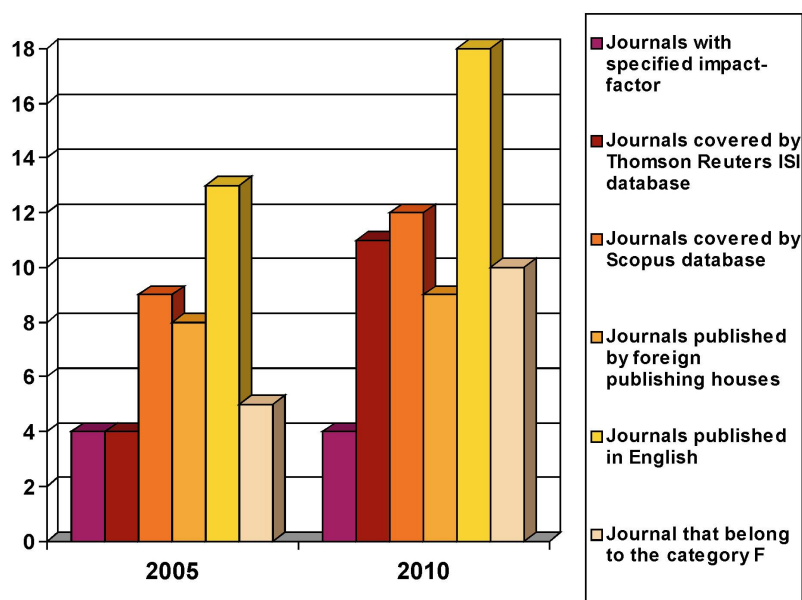
Fig. 1. Comparison of number of journals related to the top categories in 2005 and 2010 years.
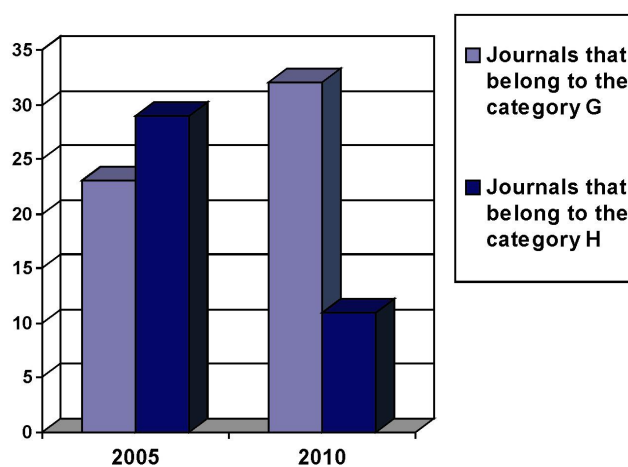
Fig. 2. Comparison of numbers of journals related to the lower categories **G** and **H** in 2005 and 2010 years.

Let us consider the IPI with taking the new criteria into account. Dependences of the IPI upon the sequence number of journal are shown in Fig. 3. The fitting coefficients of the dependences presented in Fig. 3a are collected in Table 2. Using the fitting parameters and the relation $IPI = An^{\alpha}$, one can calculate the IPI for the journals with specified

impact factors (see Table 1). Thus we have obtained the rating of Ukrainian physics journals in the same scale, including both the journals with specified impact factors and those still lacking it. When compare with 2005, the Pareto ratio in 2010 has decreased from 77/23 to 67/33 (see Table 2 and Fig. 3b). Notice that this ratio is approximately equal to 70/30 for the impact journals embraced by the Thomson-Reuters ISI database in 2008. This has caused decreasing inequality of journals (the Gini index) from 0.54 to 0.34, along with decreasing entropy index from 0.65 to 0.24. Obviously, these processes have been stipulated by the monitoring of Ukrainian physics journals during the recent five years. However, decreasing inequality implies the fact that the IPI for the journals with initially low IPI should increase essentially, while the IPI of the top journals has to grow only slightly.

Besides, it follows from the Pareto ratio that 23% of journals and proceeding (14 editions) have provided 77% of the cumulative IPI in 2005. It is worthwhile that 23% of these 14 editions represent nothing but 4 journals with the specified impact factors (6.6% of the total amount of the journals). The Pareto ratio has become lower in 2010, i.e. 33% of the journals provide 67% of the cumulative IPI. These 33% correspond to 20 editions with the highest IPI, which is equal to or exceeds 47. The next 33% of these 20 journals correspond to the top editions (6 items; 9.5% of the total amount of the journals and proceedings), of which 4 journals are those with specified impact factors and the remaining two, "Physical Oceanography" and "Theoretical and Experimental Chemistry", represent the journals whose impact factors are expected to be specified soon (Table 3). The IPI of these journals is equal to or exceeds 175. Notice that it would not be correct to compare the IPI values for a particular journal in different years, since the character of the relevant distributions is different. In the last column of Table 3, the difference of the IPI

(a)   (b)
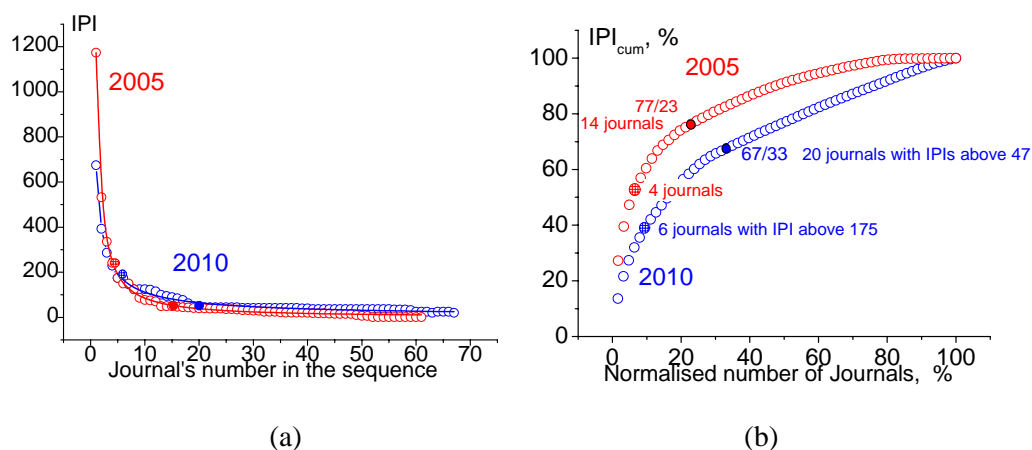
Fig. 3. Dependences of IPI on journal's number in the sequence (a), and dependences of normalised cumulative IPI on normalised number of journals (b) in 2005 and 2010. Points correspond to the data obtained by us and curves are a result of fitting with the function $IPI = An^{\alpha}$. Full and dashed blue circles correspond respectively to 20th and 6th journals, while full and dashed red circles respectively to the 14th and 4th journals.

for the journals with specified impact factors and the scores is presented. This parameter which we call as an unmatched difference may be used for estimating potential impact factors of the other journals with lower IPI. However, the estimation would be rather rough.

Table 2. Fitting parameters of the resulting distribution of Ukrainian physics journals and proceedings, and Gini and Theil indices calculated for 2005 and 2010.

Fitting parameters	2005	2010
A	1173.73157±6.8423	674.36385±38.16607
α	−1.14079±0.00762	−0.7822±0.02148
Pareto ratio	77/23	67/33
Gini index (G)	0.54	0.34
Theil index (T)	0.65	0.24
Correlation coefficient (R^2)	0.998	0.951

It is now clearly seen that the evaluation system suggested here matches fairly well the fact that approximately 20 editions belong to the principal Ukrainian physics journals, most of which have already been included to the international databases (see Tables 3 and 4). The final IPI of these journals is not less than 47. However, not more than 6 editions represent the core Ukrainian physics journal. Hence, it would be reasonable to divide all the journals and proceedings in three groups: the first one embraces 6 top-rate journals, the second – 14 journals (20-6), and the third – 43 journals and proceedings. Basing on the analysis presented above, we can recommend our criteria for evaluation of journals for the experts of Higher Attestation Commission of Ukraine. It is also important that only 9.5% of the articles published in the 6 top-rate journals and 33% of the articles published in the journals which contribute to 67% of the cumulative IPI need to be checked, whereas 67% of articles published in the remaining journals seem to could hardly satisfy the usual peer-reviewing conditions (see Table 5).

4. Conclusions

On the basis of the present analysis the following conclusions may be drawn. We have suggested the system for journals evaluation based on the Pareto distribution. This system almost agrees with that employed earlier. Using the distribution of Ukrainian physics journals obtained here, one can easily determine the journals which are ponderable within Ukraine and provide integration into the international scientific databases. The number of these journals is equal to 20, according to the data for the beginning of 2010. 6 of them can be referred to as the top Ukrainian physics journals. On the basis of Pareto distribution we have also shown that the Pareto ratio in 2010 has decreased in comparison with 2005 (67/33 and 77/23, respectively). This leads to decrease in both inequality of the journals and the entropy.

Table 3. Ukrainian physics journals ** with the highest IPI, which cover 9.5% of the total number of the journals.

Number *n*	ISSN	Journal title	Subscription of journal by the "Presa" Agency (×3)	Availability of web-site with Ukrainian and/or Russian full-text articles (×10)	Coverage of journal by the Thomson Reuters ISI database (×50)	Coverage of journal by the Scopus database (×25)	Publication of journal by a distinguished publishing house	Coverage of journal by the VINITI database (×5)	Coverage of journal by the database "Ukrainika Naukova" (×2)	Timeliness of publication (×15)	Availability of web-site with English abstracts (×10)	Availability of web-site with full-text articles in English (×5)	IPI (unmatched difference)
1	0132-6414	Low Temperature Physics	3	10	50	25	50	5	2	15	10	5	714.94 (539.94)
2	1607-324X	Condensed Matter Physics	3	10	50	25	50	5	2	15	10	5	413.48 (238.48)
3	1068-1302	Powder Metallurgy and Metal Ceramic	3	10	50	25	50	5	2	15	10	5	300.15 (125.15)
4	1024-1809	Metal Physics and Advanced Technologies	3	10	50	25	50	5	2	15	10	5	239.13 (63.13)
5	0928-5105 print, 0928-5105 online	Physical Oceanography	3	10	50	25	50	5		15	10	5	175
6	0040-5760 print, 1573-935X online	Theoretical and Experimental Chemistry	3	10	50	25	50	5	2	15	10	5	175

** Titles of journals published in Ukrainian, which appear in Tables 3, 4 and 5, are transliterated basing on their titles in Ukrainian presented on the official web-site of the Vernadsky National Library of Ukraine.

Table 4. Ukrainian physics journals covering 33% of the total number of the editions (together with the journals listed in Table 3).

Number n	ISSN	Journal title	Subscription of journal by the "Presa" Agency (×3)	Availability of web-site with Ukrainian and/or Russian full-text articles (×10)	Coverage of journal by the Thomson Reuters ISI database (×50)	Coverage of journal by the Scopus database (×25)	Publication of journal by a distinguished publishing house	Coverage of journal by the VINITI database (×5)	Coverage of journal by the database "Ukrainika Naukova" (×2)	Timeliness of publication (×15)	Availability of web-site with English abstracts (×10)	Availability of web-site with full-text articles in English (×5)	IPI
1	2	3	4	5	6	7	8	9	10	11	12	13	14
7	0884-5913 print, 1934-8401 online	Kinematics and Physics of Celestial Bodies	0	10	50	0	50	5	2	15	10	5	147
8	0040-2508	Telecommunications and Radio Engineering	3	10	0	25	50	5	2	15	10	5	125
9	0735-2727	Radioelectronics and Communications Systems	3	10	0	25	50	5	2	15	10	5	125
10	1609-1833 print, 1816-2002 online	Ukrainian Journal of Physical Optics	3	10	50	25	0	5	2	15	10	5	125

1	2	3	4	5	6	7	8	9	10	11	12	13	14
11	1562-6016	Problems of Atomic Science and Technology	3	10	50	25	0	5	0	15	10	5	123
12	0190-2717 print, 1934-7863 online	Bulletin of the Crimean Astrophysical Observatory	0	10	0	25	50	0	0	15	10	5	115
13	1025-6415	Dopovidi NAN Ukrainy	3	10	50	0	0	5	2	15	10	0	95
14	1583-0064	Radioelectronics & Informatics Journal	0	10	0	0	50	5	0	15	10	5	95
15	1727-7485	Ukrainian Antarctic Journal	0	10	50	0	0	0	0	15	10	0	85
16	0503-1265	Ukrainian Journal of Physics	3	10	0	25	0	5	2	15	10	5	75
17	1818-331X	Nuclear Physics and Atomic Energy	0	10	0	25	0	0	2	15	10	5	67
18	1027-4642	Journal of Physical Studies	0	10	0	25	0	5	2	0	10	0	52
19	1560-8034 print, 1605-6582 online	Semiconductor Physics, Quantum Electronics and Optoelectronics	3	10	0	0	0	5	2	15	10	5	50
20	1027-5495	Functional Materials	0	10	0	0	0	5	2	15	10	5	47

Table 5. Ukrainian physics journals covering 67% of the total number of the editions.

Number n	ISSN	Journal title	IPI
1	2	3	4
21	0868-5924	High Pressure Physics and Technics	45
22		Naukovi Visti Natsionalnogo Tekhnichnogo Universytetu "KPI"	45
23	1729-4428	Physics and Chemistry of Solid State	45
24	1607-3274	Radio Electronics, Computer Science, Control	45
25		Zhurnal Nano- ta Electronnoyi Fizyky	45
26	1027-9636	Radio Physics and Radio Astronomy	45
27	0203-3275	Polymer Journal	45
28	0235-2435	Photoelectronics	42
29	1996-5931	Naukovi Zapysky NAUKMA	42
30	0453-8048	Biophysical Bulletin	42
31	0453-8048	Visnyk Kharkivskogo Natsionalnogo Universytetu, Seriya Fizyka	42

Number n	ISSN	Journal title	IPI
1	2	3	4
43		Naukovi Pratsi Ukrainskogo Naukovo-Doslidnogo Gidrometerologichnogo Instytutu	37
44		Naukovyi Visnyk Volynskogo Universytetu imeni Lesi Ukrainky	37
45		Visnyk Natsionalnogo Universytetu "Lvivska Politekhnika", Seriya Fiz.-Mat. Nauky	37
46		Visnyk Natsionalnogo Universytetu "Lvivska Politechnika" Seriya Elektronika	37
47	1606-3715	Uchyonye Zapiski Tavricheskogo Natsionalnogo Universiteta	37
48		Naukovyi Visnyk Uzhgorodskogo Universytetu	37
49		Visnyk Donetskogo Universytetu	37
50		Visnyk Dnipropetrovskogo Natsionalnogo Universytetu	37
51		Naukovyi Visnyk Chernivetskogo Universytetu	37
52	2076-1576	Zbirnyk Naukovykh Prats Sevastopolskogo Natsionalnogo Universytetu Yadernoi Energiyi ta Promyslovosti	37
53	0453-8048	Naukovyi Chasopys Natsionalnogo Pedagogichnogo Universytetu imeni M. P. Dragomanova, Seriya Fiz.-Mat. Nauky	37

1	2	3	4
32	1815-7459	Sensor Electronics and Microsystem Technologies	42
33	1813-3584	Problemy Bezpeky Atomnykh Stantsiy i Chornobylya	42
34	1999-8074 print, 1999-8112 online	Physical Surface Engineering	42
35	0453-8048	Visnyk Kharkivskogo Universytetu, Seriya Yadra, Chastynky, Polya	42
36	1561-9087	Applied Hydromechanics	42
37	1028-7507	Acoustic Bulletin	42
38		Visnyk Kyivskogo Universytetu imeni Tarasa Shevchenka	42
39	1028-821X	Radiophysics and Electronics	40
40	1023-2427	Physics of Alive	40
41		Visnyk Cherkaskogo Universytetu	37
42		Visnyk Lvivskogo Universytetu	37

1	2	3	4
54	1726-7714	Journal of Thermoelectricity	37
55	1561-8889	Space Science and Technology	37
56	0130-6243	Tekhnologiya i Konstruirovanie v Elektronnoy Aparature	35
57	0485-8972	Radiotekhnika	35
58	1684-2189	Geoinformatyka	35
59		Visnyk Kharkivskogo Natsionalnogo Universytetu, Seriya Radifizuka i Elektronika	32
60	1816-5230	Nanosystemy, Nanomaterialy, Nanotekhnologiyi	25
61	0203-3100	Geophysics Journal	25
62	1608-1021	Uspekhi Fiziki Metallov	25
63	0233-7577	Optoelectronika i Poluprovodnikovaya Tekhnika	20

Most of the proceedings and journals (43 items), of which relative amount is equal to 67%, represent editions of various local universities. They are characterised by enough diversity of editorial boards within neither the world nor Ukraine. As a matter of fact, substantial localisation and marginalisation of these editions makes any attempt to high-quality peer reviewing impossible. That is why one of the ways out aimed at successful development of these proceedings should be their merger and agglomeration into one or several journals.

Finally, we have demonstrated that the system of evaluation of journals suggested here matches well the evaluation results by the international bibliometric databases. As a result, we have formulated particular recommendations concerning the journals evaluation.

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Анотація. *Дана робота присвячена проведенню оцінювання українських фізичних журналів на основі розподілу Парето і порівнянню сьогоднішньої ситуації з станом журналів п'ять років тому. Показано, що 20 журналів можуть бути віднесені до основних, тоді як загальна їх кількість становить - 63 Сформульовані критерії оцінювання українських наукових журналів.*