

Full-Text Archive of Acoustics Journal on the Internet (<http://www.akzh.ru>). First Five Years' Experience

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Received March 23, 2017; revised March 23, 2017; accepted May 15, 2017

Abstract—The project of converting the Acoustics Journal archive into electronic form was launched in January 2012. The Internet archive was posted in June. The process of preparing the archive and the timeliness of the project are described. Statistical information at the beginning of 2017 is provided: the number of visits to the site by country and administrative district of the Russian Federation, the number of articles in the journal, the number of authors and their publication activity, and a list of authors of the journal with a citation index of more than 1000. Attention is drawn to the high quality of sites of several leading journals (Uspekhi Fizicheskikh Nauk, journals of the Ioffe Institute of the RAS, and journals of the Siberian Branch of the RAS). The electronic form of scientific information and its availability allows, not only storing and disseminating of information, but also increasing the efficiency of its use.

Keywords: Russian-language scientific literature, electronic documents, databases, Internet resources, full-text archives of Internet journals, Acoustics Journal

DOI: 10.1134/S1063771019660059

The project of converting the Acoustics Journal archive into electronic form and posting it on the public domain of the Internet began to be implemented in January 2012, and in June of that year the entire archive of the journal was uploaded at <http://www.akzh.ru>. The principal position of the editorial board of the journal was to provide open access to the entire archive. This coincided with the opinion of the developers of this project. Only with such full mutual understanding was the work possible, and its implementation was completed as soon as possible. Five years have passed since then, and we made sure that the project was timely and passed the test of the choosiest users. We note that, the first time after the Archive appeared on the Internet, some users began to actively download the articles they needed, because they did not believe that “such good fortune” could last for long, and that the site would either be closed or “monetized”.

Difficulties were development of the design of the site, its structure, the relationship of the components within this structure, and the need for pointers and cross hyperlinks. It was necessary, not only to post more than 300 issues of the journal, but also to provide convenient navigation throughout the content. All this was quickly performed in parallel. It took a long time to scan the entire content of the numbers. We were unable to access at least one of the two Minolta

PS7000 book scanners, with which we previously made an Internet archive of the Results of Science and Technology in Physics and Astronomy at VINITI RAS [1], so the scan was performed on an Epson A3 format scanner GT 20000.

During the scanning process, it was confirmed that the work was started in a timely manner, because, even in the editorial office of Acoustics Journal, there was no complete set of journals, and we had to take some issues from the library at the Andreev Acoustic Institute, while several issues were found only among individual subscribers. The search for these issues was undertaken by Managing Editor N.Yu. Gerasimets, which she promptly provided. The scanning was carried out every day for three months, and the draft material was ready by May 2012. We had to work with early journals in medical masks to protect ourselves from book dust. We deliberately left some scans in color, with their yellowed, dusty pages full of dust to show how old they were. Scanned pages were issued as 150 dpi, which was satisfying for us and the editors. Otherwise, when scanning with a resolution of 300 dpi or higher, we were afraid the project would never be completed. Our small team of enthusiasts is not a government agency: we would not be able to do work that does not end in our lifetime.

At the same time, work was done on the design of the site and the pages that make it up, and on the programming of the sequential stages of processing the material and the preparation of the pages of the site. This included picking (from a huge array of scanned images) individual issues, recognizing the necessary material for the pages of the site, with the contents of each issue, and adding a summary to the bibliography of each article. We decided that the entire content of the issue with a summary for each article should be presented immediately on the page, not just the content first, then display of an additional summary via “click”. Almost all journal sites do this, and this is annoying for many users. Our setup was the following: fewer clicks to get to the right material. We will not give examples; the readers themselves will find them by looking at the site of almost any scientific journal on the Internet. Work was also done to design technology for creating an author’s index and filling out the rubricator, along with creating cross hyperlinks throughout the material, so, from each article on the page of any issue, it would be possible to go to the author’s index and rubricator, and vice versa, from the author’s index or rubricator, go to the desired article. Until 2012, all the issues were rubricized by an employee at the Acoustics Institute, Dr. D.L. Rastorguev, who at the same time was performing duties as a freelance editor for an issue of the *RJ Acoustics* of the VINITI. Later, all articles of the published issues from No. 5, 2012 to the present time, have been rubricated by members of the editorial board.

The project was completed with a small financial resource as a result of a fruitful situation. Chief Editor of *Acoustics Journal* O.V. Rudenko and Editor-in-Chief N.Yu. Gerasimets showed great interest in the project. Volumetric technical work was conducted by N.V. Shamaev, who at that time had successfully become a student in the Department of Acoustics of the Faculty of Physics at MSU. The authors of this article, who wanted to realize their potential accumulated on previous projects, had great interest in the project. As the latter, we will cite the Internet encyclopedia on ecology [2, 3], the electronic edition of the *Results of Science and Technology* of the VINITI [4], a retrospective abstract database on mathematics [5], and the electronic *Abstract journal* [6].

One of the main conditions that we tried to fulfill in the project, in addition to high-quality preparation of the material, was convenient and comfortable use of a resource. Moreover, the online archive of the journal should be available to everyone at any time. Unfortunately, the server sometimes goes through routine maintenance, during which the resource is unavailable, and therefore, in the near future, we will launch a “mirror” site.

Initially, the *Acoustics Journal* archive was uploaded to the server of the Faculty of Physics at MSU (<http://akzh.phys.msu.ru>), however in August 2012 the site was relocated to the server of the Prokhorov General Physics Institute of the RAS and since then has been continuously running at the Internet address <http://www.akzh.ru> with the friendly support of GPI RAS employees—deputy director V.G. Mikhalevich and system administrator of the computer network D.A. Cheshkov.

Over the course of the year, we corrected shortcomings noted by us and users, and after that it became possible to talk about the completion of work on the “retrospective”. After the release of each new issue, this quickly appears on the site. In 2012, we began the Wikipedia page of the *Acoustics Journal* (AcJ), where we provided detailed information on the journal, its chief editors, editorial boards, authors most frequently published in the journal, rubrics, content by years, and milestones of the journal’s history. At the beginning of 2017, this was updated (Fig. 1). At the same time, in 2013, we published an article about the project [7].

At the end of 2012, for the convenience of foreign users, an English version of the site was made. The site has become bilingual (Fig. 2).

In 2016, we noticed that, in the early years of the journal’s existence, several abstracts of conferences were published several times, which at first we did not select as separate articles, but printed only the title of this section in the content (for example, “The Third Scientific Session of the Russian Acoustic Society”, *Acoustics Journal*, 1995, 41, No. 4, 650–670). In this regard, in this example, 21 short articles, which in the early years of the journal were printed as Brief Reports on one to two pages, fell out of use. They could not be found with pointers. Therefore, in 2016, we provided each of the dozens of such articles with a bibliographic description and rubricated, then entered into the *Acoustics* information retrieval system [8], thereby making them searchable. In this regard, the meticulous reader, comparing the picture on Wikipedia (or the current Fig. 3 in this article) and Fig. 2 of the article [7], may notice a difference in the filling of the AcJ for some years.

Information updated at the end of 2016 shows that, for the period of 1955–2016, 9245 articles and reports were published; 3617 (60.0%) authors wrote one article; 920 (15.3%)—two; and 426 (7.1%)—three. Total number of authors: 6023 (all data from the release of AcJ to the 6th issue of 2016). In [7], we presented a table with the names and number of works of the most frequently published authors of the journal. Over the past five years, the list has changed slightly, and in

Acoustics Journal

From Wikipedia, the free encyclopedia

Acoustics Journal is a scientific journal, the only Russian academic journal entirely devoted to acoustics. The journal publishes scientific reviews, original articles, brief reports, letters to the editorial board, and information on current events and activities. The subject of publications includes consideration of theoretical and experimental aspects of fundamental and applied acoustics. The results of scientific research conducted at the institutes of the Russian Academy of Sciences, universities and research organizations of Russia, as well as other countries, are published. Designed for researchers, graduate students, undergraduate physics students, and teachers.

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Acoustics Journal	
Specialization:	Physics
Periodicity:	once every two months
Language:	Russian
Editorial office address:	119991, Moscow, Leninskie Gory, Moscow State University, Faculty of Physics, Department of Acoustics 📍
Chief Editor:	O. V. Rudenko
Publisher:	Nauka Publishing House
Country:	🇷🇺 Russia
Established:	1955
ISSN of print version:	0320-7919 🔗
Website:	akzh.ru 🔗

History [edit | edit wiki text]

It was founded in 1955 at the initiative of N.N. Andreev, who became the first Chief Editor of the journal. It is issued six times a year (until 1972 it was issued four times a year).

It is included in the list of scientific journals of the State Commission for Academic Degrees and Titles.

Chronic and statistical information

- Years of publishing (since 1955)
 - Number of issues: 1955–1972—four issues each, 1973–2016—six each. In total, 336 issues and one appendix at the end of 2016 (2005, Appendix) were published. Issues 4 and 5 of 2009 are combined into one issue (No. 4–5).
 - Number of articles—9245.
 - Number of authors—6023.
 - 60% of the authors wrote one article, 15%—two, 7%—three (data from the beginning of publishing to the sixth issue of 2016). Usually, authors were printed alphabetically, but not always.
- Appearance of the subscription index. ISSN, UDC (since 1963, iss. 3), copyright on articles since 1989, iss. 6, and for the journal—since 1973, iss. 3.
- Changes of the Chief Editor
 - 1955–1962, iss. 1—N.N. Andreev.
 - 1962, iss. 2—1987—V.S. Grigor'ev.
 - 1988–2002, No. 5—L. M. Lyamshev.
 - 2002, No. 6—2003, No. 2—Acting Chief Editor F.V. Bunkin
 - 2003, No. 3 to the present—O. V. Rudenko
- 1955–1989—printing of content at the end of the issue, since 1990—at the beginning.
- Appearance of the editorial board—since 1990.
- 1955–1993—journals are divided into issues, then (since 1994)—into numbers.
- 1955–1989—the volume was printed in Roman numerals (up to XXXV), then (since 1990)—in Arabic.
- Publishing house: from 1955 to 1993—NAUKA, 1994–1998 MAIK NAUKA (MAIK—International Academic Publishing Company), since 1999—MAIK NAUKA/INTERPERIODIKA, since 2005—NAUKA again.
- Change in copyright:
 - since 1973, iss. 3—© Nauka Publishing House;
 - since 1974, iss. 4—© Nauka Publishing House, Acoustics Journal;
 - since 1991, iss. 3—© Department of General Physics and Astronomy of the USSR Academy of Sciences, Nauka Publishing House, Acoustic Journal;
 - since 1992, iss. 2—© Department of General Physics and Astronomy of the Russian Academy of Sciences, Nauka Publishing House, Acoustics Journal;
 - since 1993, iss. 4—© RAS, Department of General Physics and Astronomy;
 - since 2002, No. 4—© RAS;
 - since 2004, No. 3—© RAS, Acoustic Journal Editorial Board (compiled).
- In the period of 1955–1991—the journal was published in letterpress, in 1992–2005—offset printing, since 2006—digital printing.
- 1990–2008—publication of the summary in English as well.
- Since 1997, corrections were no longer printed.
- From 2006, No. 2 to 2010, No. 1, articles in the journal were categorized according to PACS.
- Since 2007—appearance of the rubrication in the form of sections.
- Since 2009—English content no longer printed.
- In 2011, the journal began accompany publications with keywords.
- Since 2012, the journal has stopped printing a summary of books published in Russian.
- From the first issue of 2013, articles are provided with a Digital Object Identifier (DOI).
- Since its foundation (1955), the journal has been translated into English.

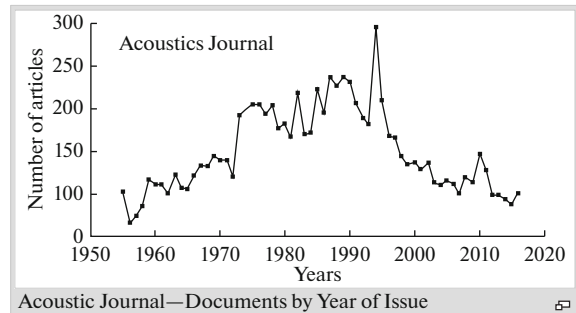


Fig. 1. Acoustics Journal page on Wikipedia.



Fig. 2. Site of the Acoustic Journal.

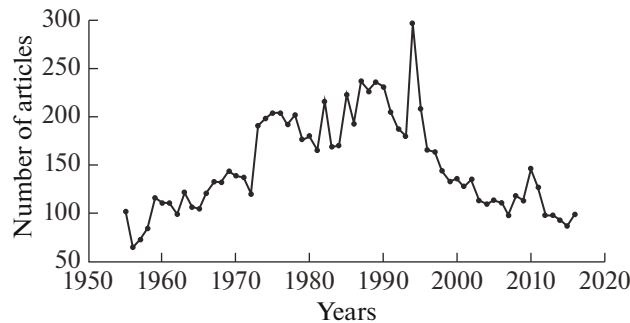


Fig. 3. Number of documents in the Acoustics Journal by years.

Table 1 we provide an updated list. Unlike the past list, this one also includes works that are published only in the English version of the Acoustic Physics journal.

We consider it interesting to provide Table 2 with our authors, who have more than 10 publications, as well as members of the editorial staff and editorial board of the journal, which have a citation index of more than 1000 according to data from ISI (Web of Sciences), Google Scholar, and RSCI. Initially, the Table 2 had columns with numerical citation data and the Hirsch index in these systems. However, even a cursory glance showed that there were at least approximately similar results. So, for the same scientist, the citation index was 5202, 8381, and 7414 and the Hirsch index was 30, 44, and 35, according to the indicated order of sources. We draw attention to the fact that the variability of transliteration of authors' names from Cyrillic to Latin, which we paid attention to earlier [9],

may lead to this spread, provided that all publications are taken into account, as well as a blank in the table of some authors, for which we apologize to them in advance.

Let us note one more unique author of our journal. In February 2015, Irina Petrovna Golyamina, whose articles were published in the Acoustics Journal for 60 years, died. Her first article appeared in the first issue of the journal in 1955, and her last article was published in 2015. In our journal, on the 75th anniversary of Irina Petrovna Golyamina, in No. 5 of 1999, "Irina Petrovna Golyamina (on Anniversary Birthday)" was published, and, in the last issue of 2016, the article "In memory of Irina Petrovna Golyamina (April 30, 1924 – February 5, 2015)". A similar case, as noted in this article, exists only in mathematics, where Academician S.M. Nikolskii was published in "Proceedings of the Steklov Mathematical Institute for 71

years". To that point, academician V.L. Ginzburg, also the author of an article in the first issue of our journal, said that, to gain recognition, one often had to live long. However, S.M. Nikolskii and I.P. Golyamina received recognition during their lifetime, and the above statement by Vitaly Lazarevich refers only to our example of the uniqueness of their publication activity.

Acoustics Journal had six editors throughout its entire existence: N.N. Andreev, (1955–1962), V.S. Grigor'ev (1962–1987), L.M. Lyamshev (1988–2002), F.V. Bunkin (Acting Chief Editor 2002 No. 6–2003 No. 2), and O.V. Rudenko (2003–current). Of these, only for L.M. Lyamshev and O.V. Rudenko do we have statistically significant material on publication activity in the journal (Table 1). In Figs. 4 and 5 we provide a field of interest in acoustics for them, which we took from the Acoustics IRS [10]. It is very unusual for our time that each received important results in several sections of acoustics. For comparison, we present the "interest field" of another productive author, Professor V.I. Balakshy, who is mainly engaged in acousto-optics (Fig. 6).

The values of the rubrics given on one of the axes of Figs. 4–6 can be viewed via the rubricator of our Archive on the journal's website (Fig. 7). There are only 15 rubrics, and 12 of them have subrubrics—149.

Finally, we give brief information on the geography of visiting the Acoustics Journal website by country (Table 3) and the administrative territories of the Russian Federation (Table 4).

We see that only three countries from the former USSR continue to be actively engaged in acoustics and read the main Russian-language journal on acoustics. Also in the Table, among the first 11 countries, there is not a single country of the former socialist camp. Perhaps this is due to the transfer of their scientific activity into the English-language information field of acoustics.

We see that the main visitors to our site are from Moscow and St. Petersburg. Slightly surprising is low presence from N. Novgorod, where famous acoustic centers are located (Lobachevsky State University of Nizhny Novgorod, IAP RAS, etc.), as well as from institutes and enterprises of the Urals and Siberia, where respectable acoustic schools previously existed. It is unlikely that they all read only the printed Acoustics Journal. Perhaps we need to actively inform them about the existence of our site.

We cannot but note the existence of other well-organized, in our opinion, sites of scientific journal archives. First of all, this is the website of the Uspekhi Fizicheskikh Nauk journal [11], which also contains the full-text archive of the journal for all the years of its existence. Then, we note the sites of scientific journals available on the network, including the portal of the

Table 1. Most frequently published authors of the journal (1955–2017 No. 2)

No.	Authors	Original articles/informational materials
1	Lapin, A.D.	115/0
2	Lyamshev, L.M.	112/42
3	Rudenko, O.V.	108/4
4	Tartakovskii, B.D.	93/14
5	Rybak, S.A.	82/3
6	Tyutekin, V.V.	79/2
7	Zverev, V.A.	79/1
8	Petukhov, Yu.V.	74/0
9	Mikhailov, I.G.	68/5
10	Lysanov, Yu.P.	65/8
11	Nazarov, V.E.	65/0
12	Naugolnykh, K.A.	63/4
13	Burov, V.A.	64/0
14	Petnikov, V.G.	52/0
15	Sutin, A.M.	52/0
16	Kuzkin, V.M.	51/0
17	Kapustina, O.A.	48/1
18	Mironov, M.A.	47/0
19	Bobrovnikskii, Yu.I.	45/2
20	Viktorov, I.A.	45/0
21	Sapozhnikov, O.A.	43/1
22	Khil'ko, A.I.	42/0
23	Kanevskii, I.N.	41/0
24	Zabolotskaya, E.A.	40/0
25	Khabibullaev, P.K.	40/0
26	Shenderov, E.L.	39/2
27	Gavrilov, L.R.	39/0
28	Gurbatov, S.N.	39/0
29	Kravtsov, Yu.A.	39/0
30	Galkin, O.P.	38/0
31	Eliseevnin, V.A.	38/0
32	Vadov, R.A.	37/0
33	Vovk, I.V.	37/0
34	Karabutov, A.A.	37/0
35	Ostrovskii, L.A.	36/0
36	Shevyakhov, N.S.	36/0
37	Golyamina, I.P.	35/0
38	Urusovskii, I.A.	35/0
39	Nikiforov, A.S.	35/0
40	Volovov, V.I.	34/0
41	Rumyantseva, O.D.	34/0

Table 2. List of authors of the Acoustics Journal with a citation index of more than 1000 (data from ISI (WoS) or Google Scholar—GS)

Surname, first name, patronymic	Articles in AcJ	Primary place of employment
Bunkin, F.V.	32	Wave Research Center, GPI RAS
Gavrilov, L.R.	39	Andreev Acoustics Institute
Gaponov-Grekhov, A.V.		IAP RAS
Godin, O.A.	24	University of Colorado, Boulder, Colorado, USA
Gulyaev, Yu.V.	27	IRE RAS
Gurbatov, S.N.	39	Faculty of Radiophysics, Lobachevsky State University of Nizhny Novgorod
Gusev, V.E.	25	Universite 'du Maine
Danilov, S.D.	12	Alfred Wegener Institute for Polar and Marine Research in Bremerhaven, Germany
Zaitsev, V.Yu.	27	IAP RAS
Karabutov, A.A.	35	International Educational and Scientific Center, MSU
Kravtsov, Yu.A.	39	GPI RAS
Nazarov, V.E.	61	IAP RAS
Nikitov, S.A.		Fryazino branch of IRE RAS
Ostrovskii, L.A.	36	IAP RAS
Pelinovskii, E.N.	12	IAP RAS
Preobrazhenskii, V.L.	17	Wave Research Center, GPI RAS
Romanov, V.P.	21	Faculty of Physics, St. Petersburg State University
Rudenko, O.V.	112	Faculty of Physics, MSU
Sapozhnikov, O.A.	44	Faculty of Physics, MSU
Sarvazyan, A.	19	CSO Artann Laboratories
Solodov, I.Yu.	16	Faculty of Physics, MSU
Sutin, A.M.	52	Stevens Institute of Technology, Hoboken, NJ
Talanov, V.I.	14	IAP RAS
Khokhlova, V.A.	32	Faculty of Physics, MSU
Charnaya, E.V.	18	Faculty of Physics, St. Petersburg State University
Shavrov, V.G.	15	IRE RAS

Table 3. Number of visits to the Acoustics Journal website in 4.5 years by country

Country	Visits
Russia	69241
Ukraine	11296
Belarus	2445
USA	1834
China	982
Kazakhstan	919
Germany	450
Brazil	364
France	354
United Kingdom	343
Israel	332
...	...
Total	91895

Radiotekhnika Publishing House [12], which combines 18 journals, the portal of the publishing house of the Siberian Branch of the RAS [13] with 22 journals, and the portal of journals of the Ioffe Institute of the RAS [14].

The significance of these projects, in our opinion, is not in doubt. The electronic form of information with a well-thought-out system of its storage, distribution, and retrieval solves not only the safety but also the availability of information, which increases its usability and significance [15, 16]. In addition, we bring into circulation our forgotten and inaccessible print heritage, thereby solving the problem of preserving information.

We also note that, in addition to simply providing information, the Acoustics Journal archive allows research on the state of acoustics at present, taking data for subsequent analysis of trends in the develop-

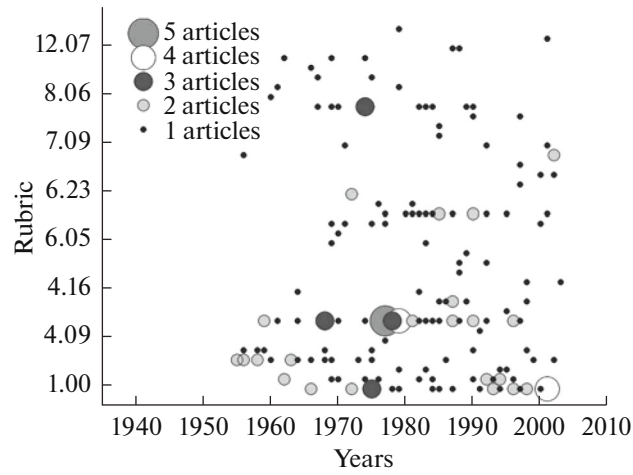


Fig. 4. Field of interest in acoustics of L.M. Lyamsheva.

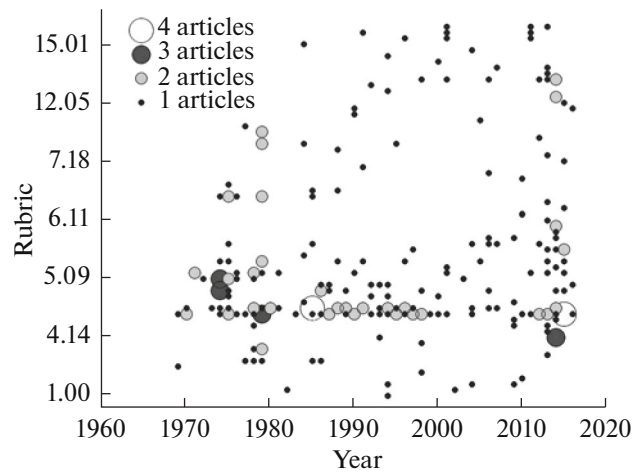


Fig. 5. Field of interest in acoustics of O.V. Rudenko.

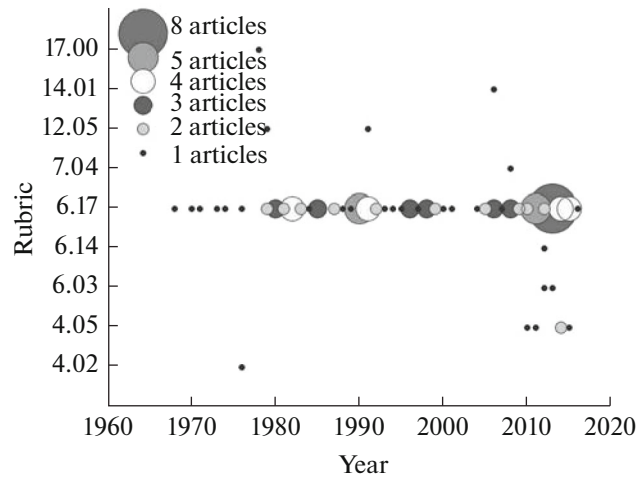



Fig. 6. Field of interest in acoustics of V.I. Balakshiy, engaged in acousto-optics.



**АКУСТИЧЕСКИЙ
ЖУРНАЛ**

RU | EN

ВЫПУСКИ | АВТОРЫ | **РУБРИКИ** | О ЖУРНАЛЕ

[Главная](#) | [Рубрики](#)

Рубрики

- 01 [КОНГРЕССЫ, КОНФЕРЕНЦИИ, СЕМИНАРЫ, СИМПОЗИУМЫ, СОВЕТЫ, СОВЕЩАНИЯ](#)
- 02 [БИБЛИОГРАФИЯ](#)
- 03 [ПЕРСОНАЛИИ](#)
- 04 [КЛАССИЧЕСКИЕ ПРОБЛЕМЫ ЛИНЕЙНОЙ АКУСТИКИ И ТЕОРИИ ВОЛН](#)
 - 04.01 [Математическая теория распространения волн](#)
 - 04.02 [Лучевая акустика](#)
 - 04.03 [Отражение, дифракция и рефракция волн](#)
 - 04.04 [Рассеяние акустических волн](#)
 - 04.05 [Упругие волны в твердых телах](#)
 - 04.06 [Отражение, дифракция, рассеяние упругих волн](#)
 - 04.07 [Скорость и затухание акустических волн](#)
 - 04.08 [Стоячие волны, резонанс, нормальные моды](#)
 - 04.09 [Волноводы, волны в трубах и направляющих системах](#)
 - 04.10 [Переходное излучение и рассеяние](#)
 - 04.11 [Излучение источников, импеданс, картины полей](#)
 - 04.12 [Численные методы, компьютерное моделирование](#)
 - 04.13 [Аналогии](#)
 - 04.14 [Методы измерений и инструменты](#)
 - 04.15 [Колебания распределенных систем, вибрации, структурная акустика](#)
 - 04.16 [Волны в многофазных, пористых, резиноподобных средах, полимерах](#)
 - 04.17 [Статистическая акустика](#)
- 05 [НЕЛИНЕЙНАЯ АКУСТИКА](#)
 - 05.01 [Нелинейные параметры среды](#)
 - 05.02 [Теория нелинейных акустических волн](#)
 - 05.03 [Распространение интенсивных волн, пилообразные и слабые ударные волны](#)

Fig. 7. Rubrics of the journal at <http://www.akzh.ru/rubrics.htm>.

ment of a particular area of acoustics, obtaining data on the field of interest of specified specialists, searching articles of interest, etc. For an example of this use, see [17].

The issues of priority and preservation of intellectual property are of great importance. Many of our

authors have discovered the previous results of domestic scientists published by their colleagues in foreign journals for the second and third time. In turn, in our publications, there are often repetitions testifying to the insufficient acquaintance of the authors with the works of their predecessors. Only properly organized

Table 4. Number of visits to the Acoustics Journal archive website in 4.5 years by administrative district of the Russian Federation

Administrative district	Visits
Moscow and the Oblast	28384
St. Petersburg and the Oblast	9522
Nizhny Novgorod Oblast	4944
Rostov Oblast	2498
Primorsky Krai	2303
Vladimir Oblast	1780
Bashkortostan	1481
Tatarstan	1162
Novosibirsk Oblast	1096
Kaliningrad Oblast	967
Tomsk Oblast	944
Krasnodar Oblast	923
Samara Oblast	920
Perm Oblast	855
Sverdlovsk Oblast.	831
Omsk Oblast	805
Irkutsk Oblast	735
Chelyabinsk Oblast	718
Voronezh Oblast	685
...	...
Total:	69241

information support can guarantee the purity and novelty of the scientific results that underlie the research process.

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Translated by S. Avodkova