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Authors are encouraged to submit article in MS Word (doc) and Acrobat (pdf) formats by e-mail: editor@sensorsportal.com
Please visit journal's webpage with preparation instructions: http://www.sensorsportal.com/HTML/DIGEST/Submition.htm

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Impact Factor of Sensors Journals: What Does it Really Mean ?

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The topic of Sensors Web Portal survey 2007 was '*What is the most important factor at article publication ?'* [1]. Most of our authors and readers assume that it is: 1) High impact factor of scientific journal (45 %); 2) Rapid publication (24 %); 3) Number of readers who will read an article; 4) Easy preparation instructions for articles (3 %); 5) Wide readers auditorium of journal (3 %) and 6) Other (4 %). The survey results are shown in Figure 1.

What does it really mean a 'high impact factor' of journals ? According to [2, 3] the impact factor was devised by Eugene Garfield, the founder of the Institute for Scientific Information, now part of Thomson, a large worldwide US-based publisher. Impact factors are calculated each year by Thomson Scientific for those journals which it indexes, and the factors and indices are published in *Journal Citation Reports.*

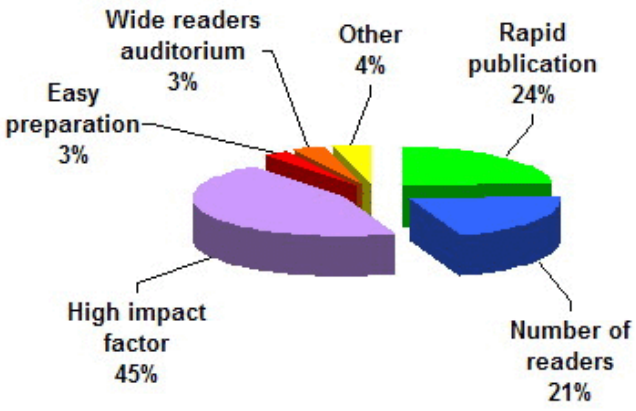

Fig. 1. Most important factors at article publication (Sensors Web Portal survey 2007 [1]).

The impact factor for a journal is calculated based on a 3-year period, and can be viewed as an approximation of the average number of times published papers are cited in the two calendar years following publication. For example, the 2007 impact factor for a journal would be calculated as follows:

$$2007\ Impact\ Factor = A/B,$$

where *A* is the number of times articles published in 2005-2006 were cited in tracked journals during 2007; *B* is the number of articles published in 2005-2006. Please note that the 2007 impact factor will be actually published in 2008.

Today impact factors have a big, but controversial influence. New journals that are indexed from their first published issue will receive an Impact Factor only after the completion of two years' indexing [3]. However, the impact factor now is not infallible measures of journal quality. It was introduced when most of journals were published as "paper" journals. But today's global Net and online "virtual" realities introduce many changes.

There is no any guarantee if an article published in a journal with a high impact factor will be read by somebody. But a good feedback after publication as well as a big number of readers are the best factors to measure a research importance and its quality for an author and research team. A high impact factor does not mean reaching a wide reader auditorium and big number of readers for particular article. Eugene Garfield warns about the “misuse in evaluating individuals" because there is "a wide variation from article to article within a single journal" [4]. The citation index (citation impact) [5] and h-index [6] also do not give an objective result and even provide misleading information about a scientist's output because of many pioneer researches are pass ahead today’s reality and time. What are the most cited articles ? As usually, it is some fundamental, tutorial type articles, state-of-the-art reviews (as a good start point for research) and articles from common, popular research fields, which contain results that can be improved today by other researchers. While many research articles remain non-cited after 3 years, nearly all review articles receive at least one citation within three years of publication [3]. Speaking about really revolution and innovative articles, many people read it, know and think about it but not cited. It needs much more time for technical progress to improve something in pioneer achievements.

The second problem consists in that many sensors and measurements related journals that have high impact factors have also very long publication time (from 1.5 to 2.5 year in average). There are only few of them, which have a quick time for publication. What readers have in a new issue of journal with articles submitted two years ago ? Unfortunately, very often such results are outdated, authors now go ahead in they research, but readers must wait again for a long time to know about a progress. This is very bad situation for a modern technical progress especially in novel microelectronics technologies. For well-timed dissemination of new and innovative results to the sensor community the rapid publication is essential. Furthermore, in a journal, which has long lag time between submission and publication, it might be impossible to cite articles within the three-year window. Indeed, for some journals, the time between submission and publication can be over two years, which leaves less than a year for citation. On the other hand, a longer temporal window would be slow to adjust to changes in journal impact factors [3].

As it was marked by survey 2008 [1] participants in comments to this survey, “even though a high impact factor is one of the prime considerations for journal article publishing, from the point of view of dissemination of knowledge, the number of readers who read an article is fundamental and more important”.

Due to a lot of sensors and measurements related journals that are also distributed online, today’s reality needs more advanced metrics for determination of journal quality. Some fist steps were done in this direction and so-called e-Impact Factor was proposed by Sensors & Transducer journal’s editorial board. Theoretically, the e-Impact Factor (EIF) can be calculated on any time interval, for example, per month, per year, overall, etc.:

$$e\text{-}Impact\ Factor = D/P,$$

where D is the number of downloaded articles during the particular time period (month, year, overall, etc.); P is the number of all published articles in the journal in the particular time interval. It is possible also to determine the EIF for each of journal issue per month, year, etc, as a division of the number downloaded articles from this particular issue during the investigated period by the number of articles, published in this issue. The minimal time interval is determined by a journal’s periodicity of publication (many sensors journals are published normally on the monthly basis). Naturally, the proposed metrics can be used for any scientific journals. Only the e-Impact Factor can take into account the real minimal number (at least) of readers for particular article.

Some fist steps include also publications by some journals of lists for most downloaded articles. For example, the Sensors & Transducers Journal (ISSN 1726-5479) published by IFSA

(http://www.sensorsportal.com) has started to publish such lists in May 2006 and since this date publishes every month the 25 Top List of Most Downloaded Articles [7]. All published lists are available online and let observe some dynamic changes. Of course, there is not any problem to calculate all downloaded articles per months, per year, overall, etc. or even per issue in order to determine the EIF.

Of course, such metrics are possible only for journals with a possibility to download published articles online as well as for peer review international Open Access online journals. Such journals have a big advantage (one more advantage of Open Access online journals) for wide knowledge dissemination because of it is free of charge and can provide much more readers and free subscribers.

Today in order to have a quick, timely publication, a good feedback after publication and big number of readers, authors must obligatory consider online international peer review journals for publication of new results along with publication in traditional 'paper' printed journals. Are you ready for today's reality ? Our 290 editorial board members from 47 countries will help you. Starting from 2007 we have begun the EIF calculation on the annual basis and for 2007 it is 156.504. In addition, for the first time in the World our authors will have a unique opportunity to see the current download statistics for their articles, which let them observe a progress in a real time. Good luck !

References and Web Links

[1]. Sensors Polls and Survey at Sensors Web Portal: http://www.sensorsportal.com/HTML/Polls.htm
[2]. Impact Factor: http://www.starrepublic.org/encyclopedia/wikipedia/i/im/impact_factor.html
[3]. Impact Factor: http://en.wikipedia.org/wiki/Impact_factor
[4]. Eugen Garfield, Der Impact Faktor und seine richtige Anwendung, *Der Unfallchirurg* (1998), 101 (6), pp. 413-414.
[5]. Citation Impact: http://en.wikipedia.org/wiki/Citation_impact
[6]. H-index: http://en.wikipedia.org/wiki/H-index
[7]. 25 Top List of Most Downloaded Articles: www.sensorsportal.com/HTML/DIGEST/Top_articles.htm

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Sensors & Transducers Journal

Guide for Contributors

Aims and Scope

Sensors & Transducers Journal (ISSN 1726-5479) provides an advanced forum for the science and technology of physical, chemical sensors and biosensors. It publishes state-of-the-art reviews, regular research and application specific papers, short notes, letters to Editor and sensors related books reviews as well as academic, practical and commercial information of interest to its readership. Because it is an open access, peer review international journal, papers rapidly published in *Sensors & Transducers Journal* will receive a very high publicity. The journal is published monthly as twelve issues per annual by International Frequency Association (IFSA). In additional, some special sponsored and conference issues published annually.

Topics Covered

Contributions are invited on all aspects of research, development and application of the science and technology of sensors, transducers and sensor instrumentations. Topics include, but are not restricted to:

- Physical, chemical and biosensors;
- Digital, frequency, period, duty-cycle, time interval, PWM, pulse number output sensors and transducers;
- Theory, principles, effects, design, standardization and modeling;
- Smart sensors and systems;
- Sensor instrumentation;
- Virtual instruments;
- Sensors interfaces, buses and networks;
- Signal processing;
- Frequency (period, duty-cycle)-to-digital converters, ADC;
- Technologies and materials;
- Nanosensors;
- Microsystems;
- Applications.

Submission of papers

Articles should be written in English. Authors are invited to submit by e-mail editor@sensorsportal.com 6-14 pages article (including abstract, illustrations (color or grayscale), photos and references) in both: MS Word (doc) and Acrobat (pdf) formats. Detailed preparation instructions, paper example and template of manuscript are available from the journal's webpage: http://www.sensorsportal.com/HTML/DIGEST/Submition.htm Authors must follow the instructions strictly when submitting their manuscripts.

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