

The Evaluation of the Impact Factor of the Journal Interdisciplinary Description of Complex Systems

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Abstract: The Science Citation Index (SCI®) was first presented in Science in 1955. The Science Citation Index was launched in 1964 and the Annual SCI Journal Citation Reports were officially launched in 1975. The SCI's multidisciplinary database has two purposes: first, to identify what each scientist has published, and second, where and how often the papers by that scientist are cited. Hence, the SCI has always been divided into two author-based parts: the Source Author Index and the Citation Index. The Web of Science® (WoS)—the SCI's electronic version—links these two functions: an author's publication can be listed by chronology, by journal, or by citation frequency. The impact factor was devised by Eugene Garfield: in any given year, the impact factor of a journal is the number of citations, received in that year, of articles published in that journal during the two preceding years, divided by the total number of articles published in that journal during the two preceding years.

In this paper the definition of the impact factor has been implemented on the evaluation of the impact factor of the journal Interdisciplinary Description of Complex Systems. Finally, the value of the impact factor for the journal is presented.

Keywords: Science Citation Index, Journal Citation Reports, Source Author Index, Web of Science, impact factor, Interdisciplinary Description of Complex Systems

1 Introduction

The Science Citation Index (SCI®) was first presented in Science in 1955 [1]. The SCI's multidisciplinary database has two purposes: first, to identify what each scientist has published, and second, where and how often the papers by that scientist are cited.

Hence, the SCI has always been divided into two author-based parts: the Source Author Index and the Citation Index. By extension, one can also determine what each institution and country has published and how often their papers are cited. The Web of Science® (WoS)—the SCI's electronic version—links these two functions: an author's publication can be listed by chronology, by journal, or by citation frequency.

The Science Citation Index was launched in 1964 and the Annual SCI Journal Citation Reports were officially launched in 1975.

The impact factor was devised by Eugene Garfield [1]: in any given year, the impact factor of a journal is the number of citations, received in that year, of articles published in that journal during the two preceding years, divided by the total number of articles published in that journal during the two preceding years [2], [3], [4].

In this paper the definition of the impact factor has been implemented on the evaluation of the impact factor of the journal: Interdisciplinary Description of Complex Systems. Finally, the value of the impact factor for the journal in 2017 is presented.

The paper is organized as follows:

Section 1: Introduction.

In Section 2 Definition of the Clarivate Analytics Impact Factor is illustrated.

In Section 3 the Impact Factor calculation for journal Interdisciplinary Description of Complex Systems is presented.

Conclusions are given in Section 4.

2 Definition of the Clarivate Analytics Impact Factor

The impact factor of a journal is calculated by dividing the number of current year citations to the source items published in that journal during the previous two years [5].

The essential information about the Impact Factor on Clarivate Analytic's website [4]: <https://clarivate.com/essays/impact-factor/>.

The impact factor is useful in clarifying the significance of absolute (or total) citation frequencies. It eliminates some of the bias of such counts which favor large journals over small ones, or frequently issued journals over less frequently issued ones, and of older journals over newer ones. Particularly in the latter case such journals have a larger citable body of literature than smaller or younger journals. All things being equal, the larger the number of previously published articles, the more often a journal will be cited [6-14].

3 The Impact Factor Calculation of the Journal Interdisciplinary Description of Complex Systems 2017

The Impact Factor calculation of the journal Interdisciplinary Description of Complex Systems 2017 is based on the »Definition of the Clarivate Analytics Impact Factor« and on the essential information about the Clarivate Analytic's website:

<https://clarivate.com/products/web-of-science/>

Starting with the Web of Science page for the journal Interdisciplinary Description of Complex Systems (Figure 1, 2):

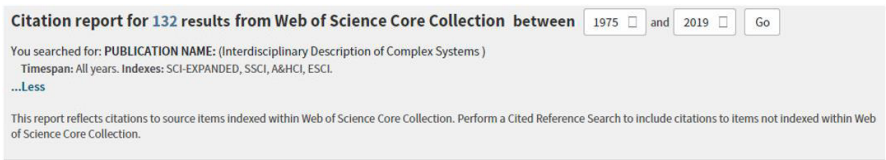


Figure 1
Web of Science page for the journal Interdisciplinary Description of Complex Systems



Figure 2
Web of Science presentation of total citations of the journal Interdisciplinary Description of Complex Systems

Interdisciplinary Description of Complex Systems impact factor IDECS 2017 calculation:

The 2017 impact factor of a journal is calculated by dividing the number of current year – 2017 - citations to the source items published in that journal during the previous two years: 2015 and 2016.

Total citations in 2017:

$$A_{\text{Indexs Total Citations 2017}} = 52$$

2017 citations to papers published in 2015+2016:

$$B_{\text{Indexs Citations 2017/2015+2016}} = 49$$

The number of papers published in 2015+2016:

$$C_{\text{Indecs articles 2015+2106}} = 83$$

Finally, the 2017 Impact Factor of the journal Interdisciplinary Description of Complex Systems (Indecs) is the following:

$$IF_{\text{Indecs 2017}} = (B_{\text{Indecs Citations 2017/2015+2106}}) / C_{\text{Indecs articles 2015+2106}} = 49/83$$

$$IF_{\text{Indecs 2017}} = \mathbf{0.590}$$

The Legend of the journal Interdisciplinary Description of Complex Systems (Indecs) is the following:

$A_{\text{Indecs Total Citations 2017}}$: total citations in 2017

$B_{\text{Indecs Citations 2017/2015+2106}}$: 2017 citations to papers published in 2015+2016 (this is a subset of A)

$C_{\text{Indecs Papers 2015+2106}}$: number of articles published in 2015+2016

$IF_{\text{Indecs 2017}}$: 2017 Interdisciplinary Description of Complex Systems Impact Factor.

Since the journal Interdisciplinary Description of Complex Systems is not in the 2017 impact factor journal list, it follows that this is the Clarivate Analytics error!

4 Conclusions

This paper presents the evaluation of the impact factor of the journal Interdisciplinary Description of Complex Systems.

The impact factor is a very useful tool for evaluation of journals, but it must be used discreetly. Definition of the Clarivate Analytics impact factor and the calculation for journal Interdisciplinary Description of Complex Systems impact factor is illustrated.

The definition of the impact factor has been implemented on the evaluation of the impact factor of the journal Interdisciplinary Description of Complex Systems. Finally, the value of the 2017 impact factor of the journal Interdisciplinary Description of Complex Systems is presented

References

- [1] Eugene Garfield, Citation indexes for science: a new dimension in documentation through association of ideas, Science, 122, 1955, pp.108-111.
- [2] Eugene Garfield, Citation indexing for studying science. Nature 227, 1970, pp. 669-71.

- [3] Eugene Garfield, Citation analysis as a tool in journal evaluation. *Science* 178, 1972, pp. 471-479.
- [4] <https://clarivate.com/essays/impact-factor/>
- [5] Gyula Mester, The valuation of the Impact Factor of the Journal *Acta Polytechnica Hungarica*, Proceedings of the TREND 2011, ISBN 978-86-7892-323-4, Kopaonik, Serbia, 07-10.03.2011, pp. 70-73.
- [4] Gyula Mester, Rankings Scientists, Journals and Countries Using h-index, *Interdisciplinary Description of Complex Systems*, Croatian Interdisciplinary Society, Vol. 14, No. 1, ISSN 1334-4684, DOI: 10.7906/indec.14.1.1, pp. 1-9, 2016.
- [5] Gyula Mester, Merenje rezultata naučnog rada, pp. 445-453, *Tehnika-Mašinstvo* 64, 3, ISSN 0040-2176, Beograd, Srbija, 2015.
- [6] Gyula Mester, Academic Ranking of World Universities 2009/2010, Vol. 7, No. 1, pp. 44-47, *Ipsi Journal*, Transactions on Internet Research, TIR, ISSN 1820 - 4503, New York, Frankfurt, Tokyo, Belgrade, 2011.
- [7] Gyula Mester, Aleksandar Rodic, Sensor-Based Intelligent Mobile Robot Navigation in Unknown Environments, *International Journal of Electrical and Computer Engineering Systems*, Vol. 1, No. 2, pp. 1-8, ISSN: 1847-6996, 2010.
- [8] Gyula Mester, New Trends in Scientometrics, Proceedings of the SIP 2015, 33rd International Conference Science in Practice, pp. 22-27, Schweinfurt, Germany, 07-08.05.2015.
- [9] Gyula Mester, Rangiranje svetskih univerziteta na bazi citata iz Google Scholar, TREND 2017, XXIII Skup Trendovi Razvoja, Položaj visokog Obrazovanja i Nauke u Srbiji, Zbornik radova, Ed. Vladimir Katic, paper No. T2.2-2, pp. 265-268, ISBN 978-86-7892-904-5, Zlatibor, Serbia, 22. - 24.02. 2017.
- [10] Gyula Mester, Naučometrijski indeksi - primena u robotici, Zbornik radova ETRAN 2015, 59. konferencija za elektroniku, telekomunikacije, računarstvo, automatiku i nuklearnu tehniku, EDU 1.1, pp. 1-6, ISBN 978-86-80509-71-6, Srebrno Jezero, Serbia, 08 - 11. 06. 2015.
- [11] Gyula Mester, Novi trendovi naučne metrike, Proceedings of the XXI Skup Trendovi Razvoja, Univerzitet u Promenama..., paper No. UP 1-3, pp. 23-30, ISBN 978-86-7892-680-8 DOI: 10.13140/RG.2.1.1754.2486, Zlatibor, Serbia, 23. - 26. 02. 2015.
- [12] Mester Gyula, Új tudományos eredmények mérése, Konferencia kiadvány XXX. Kandó konferencia, pp.1-10, ISBN 978-615-5460-24-1, Budapest, november 20, 2014.
- [13] Gyula Mester, Metode naučne metrike i rangiranja naučnih rezultata, Proceedings of 57th ETRAN Conference, pp. RO3.5.1-3, Zlatibor, 3-6. juna 2013.
- [14] Gyula Mester, Massive Open Online Courses in Education of Robotics, *Interdisciplinary Description of Complex Systems*, pp. 182-187, Vol. 14, No. 2, ISSN 1334-4684, e-ISSN 1334-4676, DOI: 10.7906/indec.14.2.7, 2016.