Landmark Paper Index: Application to Rheological (η-) Journals

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Received: 1.11.2007, Final version: 17.11.2007

Abstract:
We apply the Landmark Paper Index (LPI), calculate and analyze indices for all papers published in rheological journals (‘η-journals’) between 1991 and 2007. We discuss the effect of formal criteria on the LPI.

Zusammenfassung:
Wir werten den Landmark Paper Index (LPI) aus, berechnen und analysieren Indizes für alle Artikel, die in rheologischen Journalen (‘η-Journalen’) zwischen 1991 und 2007 erschienen. Wir diskutieren den Effekt formaler Kriterien auf den LPI.

Résumé:
Nous avons calculé le Landmark Paper Index (LPI) et analysé des indicateurs pour toutes les publications publiées dans des journaux de rhéologie (‘η-journaux’) entre 1991 et 2007. Nous discutons ici de l'effet de critères formels sur le LPI.

Key words: Landmark Paper Index, Impact Factor, journal impact, author impact, article impact, criteria, evaluation, quality, breakthrough index, rheological journals

1 INTRODUCTION

“Ranking [...] by bibliometric methods is an improper tool for research performance evaluation [...]. The problem, however, is not the ranking as such. The indicators used for ranking are often not advanced enough, and this situation is part of the broader problem of the application of insufficiently developed bibliometric indicators used by persons who do not have clear competence and experience in the field of quantitative studies of science” [1]. This statement does not obviously apply to the subject of this note, but should serve to weaken the apparent information – right from the beginning – contained in the statistical measures to be discussed.

Concerning the topic itself, Ioannidis [2] had investigated the question, if contradiction and initially stronger effects are not unusual in highly cited research. More precisely, the goal had been (i) to understand how frequently highly cited studies are contradicted or (i) to find effects that are stronger than in other similar studies and to discern whether specific characteristics are associated with such refutation over time. He concludes that the extent to which high citations may provoke contradictions and vice versa needs more study, and that controversies are most common with highly cited nonrandomized studies, but even the most highly cited randomized trials may be challenged and refuted over time, especially small ones. In the light of these and related publications [3 - 10] which include the article by Garfield [3] about the history and meaning of the journal impact factor, which he invented as member of the Institute for Scientific Information's (ISI) Thomson Corporation, we are going to present statistical information extracted from the number of citations of articles published in rheological journals, in together with the publication year, the number of authors etc.

The Impact Factor for a given year and journal is defined as the total number of citations received in that year to articles published in the previous two years, divided by the total number of citable items (source items) published by the journal in those two years. Since the Impact Factor is an average measure, there is some element of error margin on either side. A useful rule of thumb for the ‘average’ monthly journal is that two Impact Factors must differ by more than 25% to be meaningful [9]. The ISI citation databases have been used for decades as a starting point and often as the only tools for locating citations and/or conducting citation analy-

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η-journals: Highest LPI publications from 2006

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