



## MODERN BIBLIOMETRIC INDICATORS AND ACHIEVEMENTS OF AUTHORS

BOZHIDAR Z. ILIEV

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**Abstract.** The paper deals with evaluation and impact of scientific works and their authors. Different bibliometric indicators are reviewed in this context. On the evaluation and impact of scientific papers influence many factors like self-citations, number of authors and publication type. Attention is paid also on the papers content which cannot be taken into account in the bibliometrics and is reflected in the content of citing works and in the peer reviews. The publication and citation in the Internet is briefly mentioned

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### 1. Introduction

The bibliometrics provides quantitative methods for analysis of the scientific and technological literature and gives a number of numerical characteristics of authors publications and their citations [10, 25], known as bibliometric indicators, such as number of publications (total and for some period of time), number of publications in top journals, number of citations (total and for some period of time), citations per publication, top 5% citations, etc. Starting from 2005 Hirsch paper [15] there were introduced a number of new bibliometric indicators [1] like the Hirsch index  $h$  and different (Hirsch-like) indices that modify it in ways that compensate some of its disadvantages. Regardless of these measures, the peer judgements remain leading in taking decisions about the achievements of papers and their authors. On statistical level it is observed a correlation between assessment by different bibliometric indicators and quality judgment of peers [4, 24, 32]. This naturally suggests that the both methods should be used as complimentary to each other.

Section 2 points out some peculiarities of citing and concerns the problem of self-citations. Section 3 deals with some bibliometric indices. The Hirsch index, certain of its modifications and complimentary to it indices are recalled. Connections between citations and scientific achievements are discussed in Section 4. In Section 5 are presented some aspects of the problem on how the content of a paper may influence its evaluation and impact. The paper ends with a final discussion in Section 7.