
Webometrics, Informetrics and Bibliometrics – How useful are these Indicators for Measuring Knowledge?

ESSHRA

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Tunger / Ball, Research Centre Juelich, Germany
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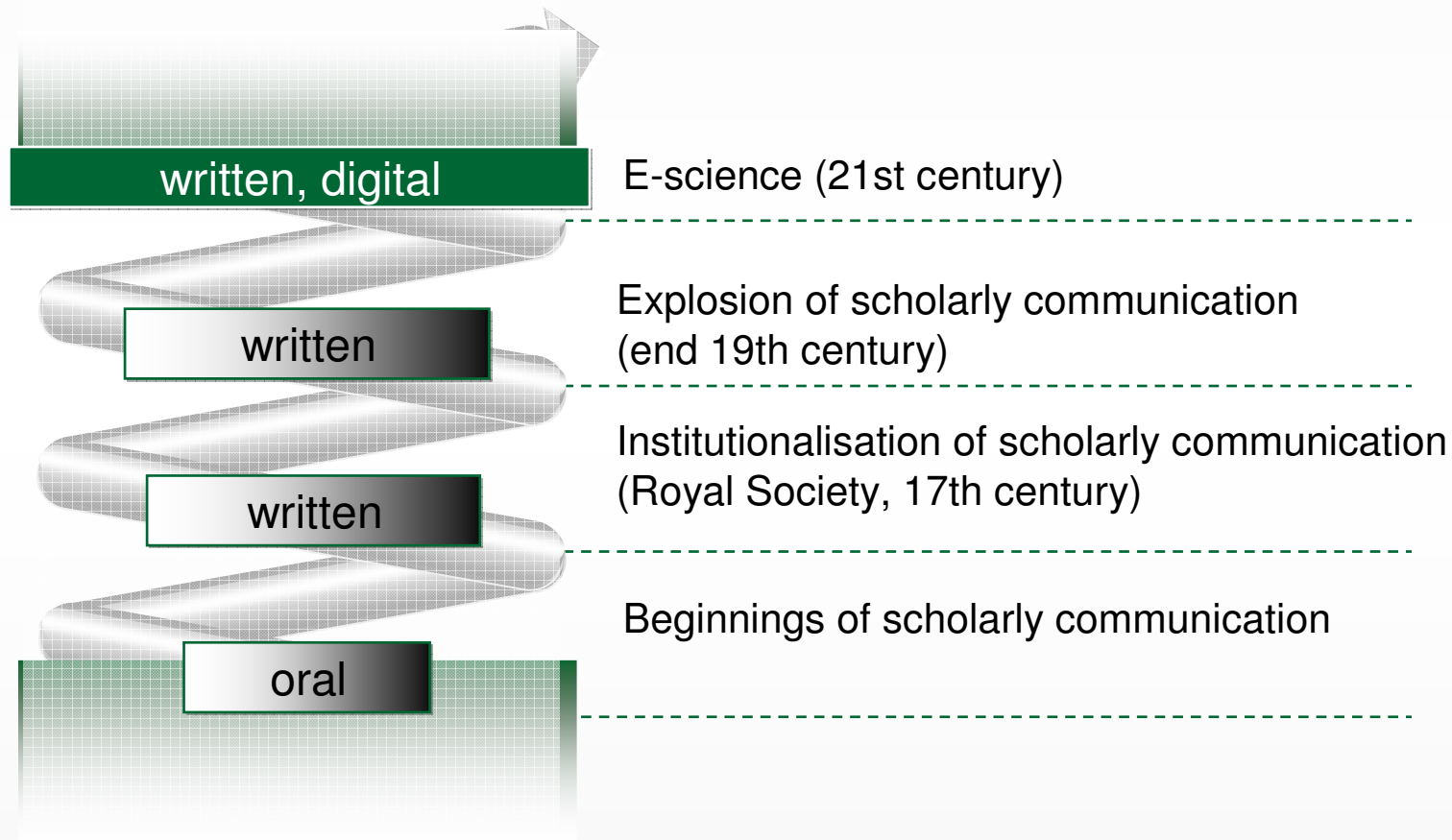


Agenda

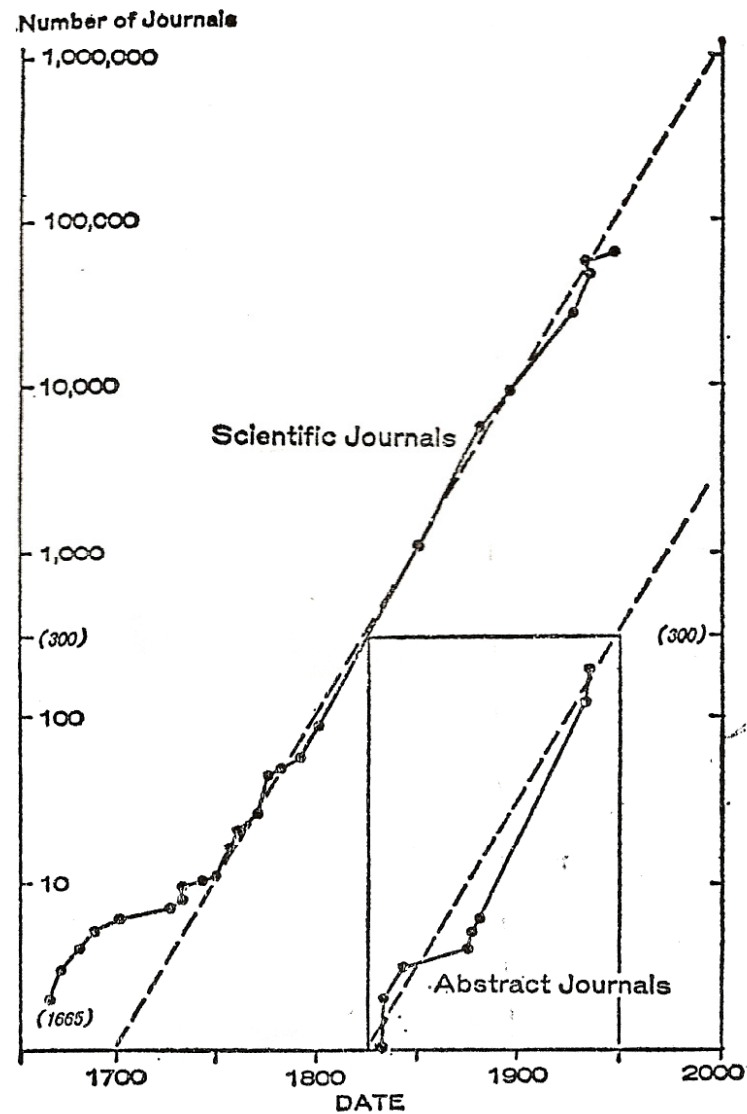
1. Introduction
2. Scientific communication
3. Bibliometrics – Scientometrics –
Informetrics – Webometrics
4. Summary



Scholarly Communication and Digital Science



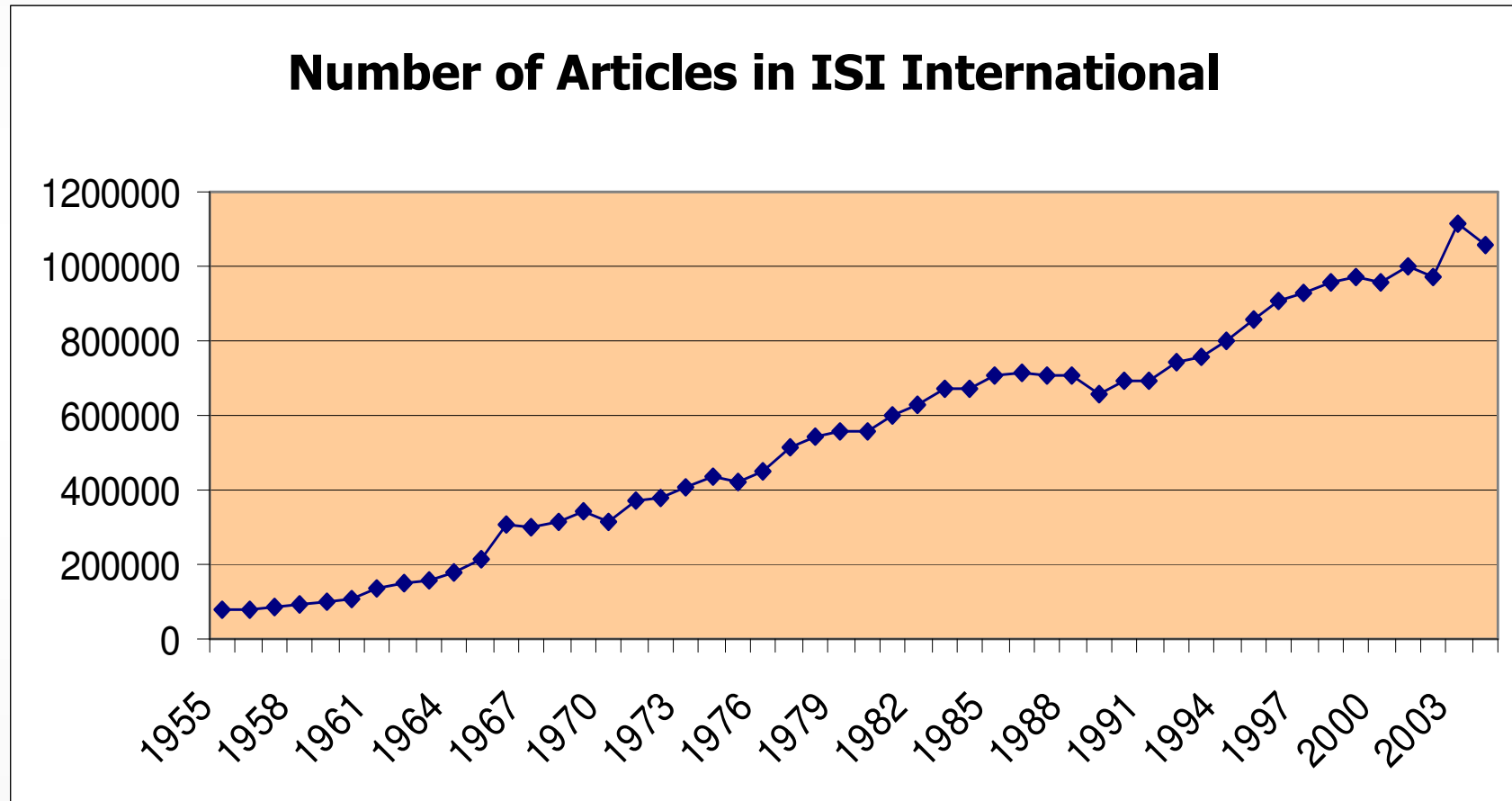
Scientific Journals



De Solla Price, 1963,
Little Science – Big Science, p. 9

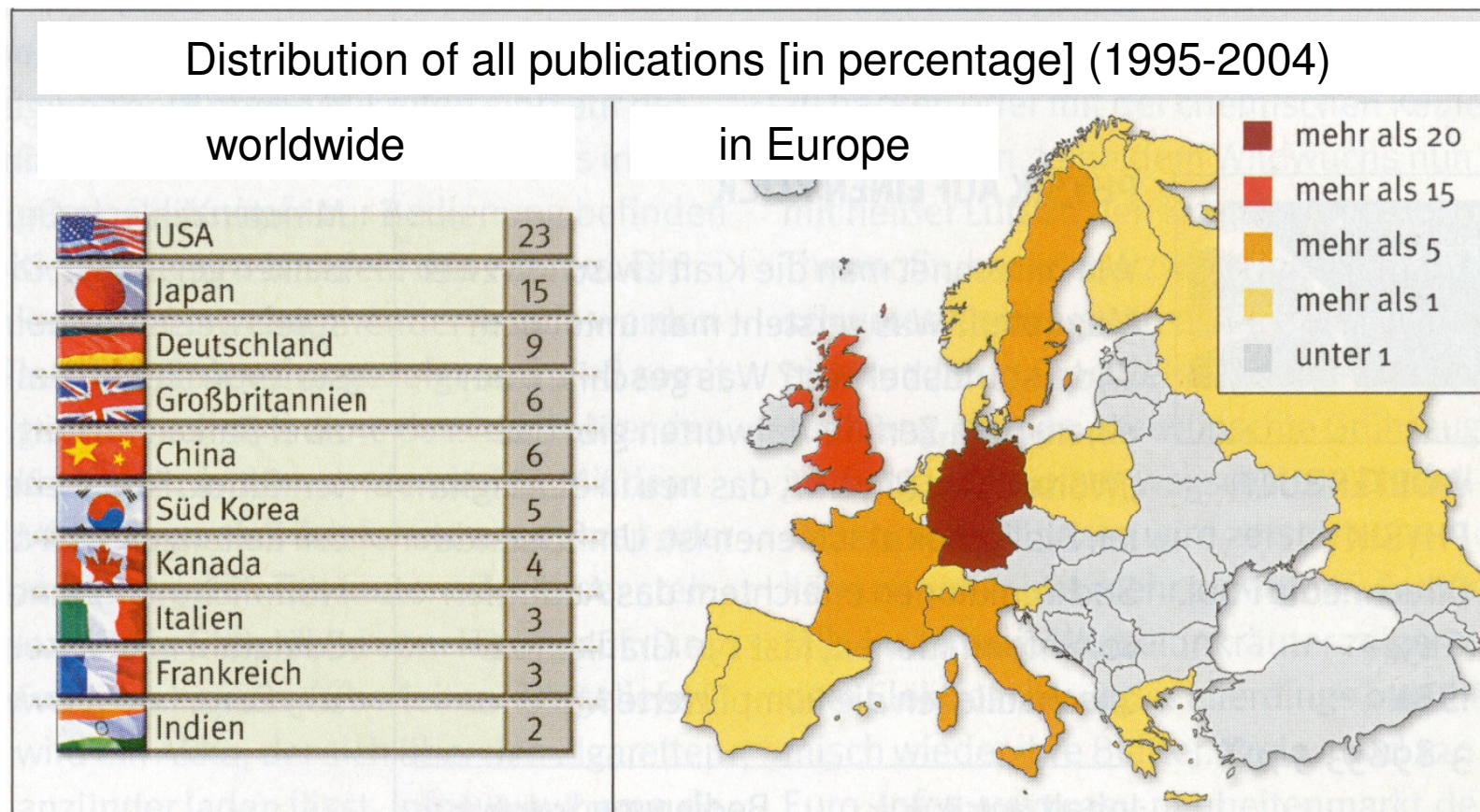


Scientific Publications





Scientific Publications on fuel cells





Definitions

Bibliometrics

is a study or measurement of formal aspects of texts, documents, books and information.

Scientometrics

analyses the quantitative aspects of the production, dissemination and use of scientific information with the aim of achieving a better understanding of the mechanisms of scientific research as a social activity.

Informetrics

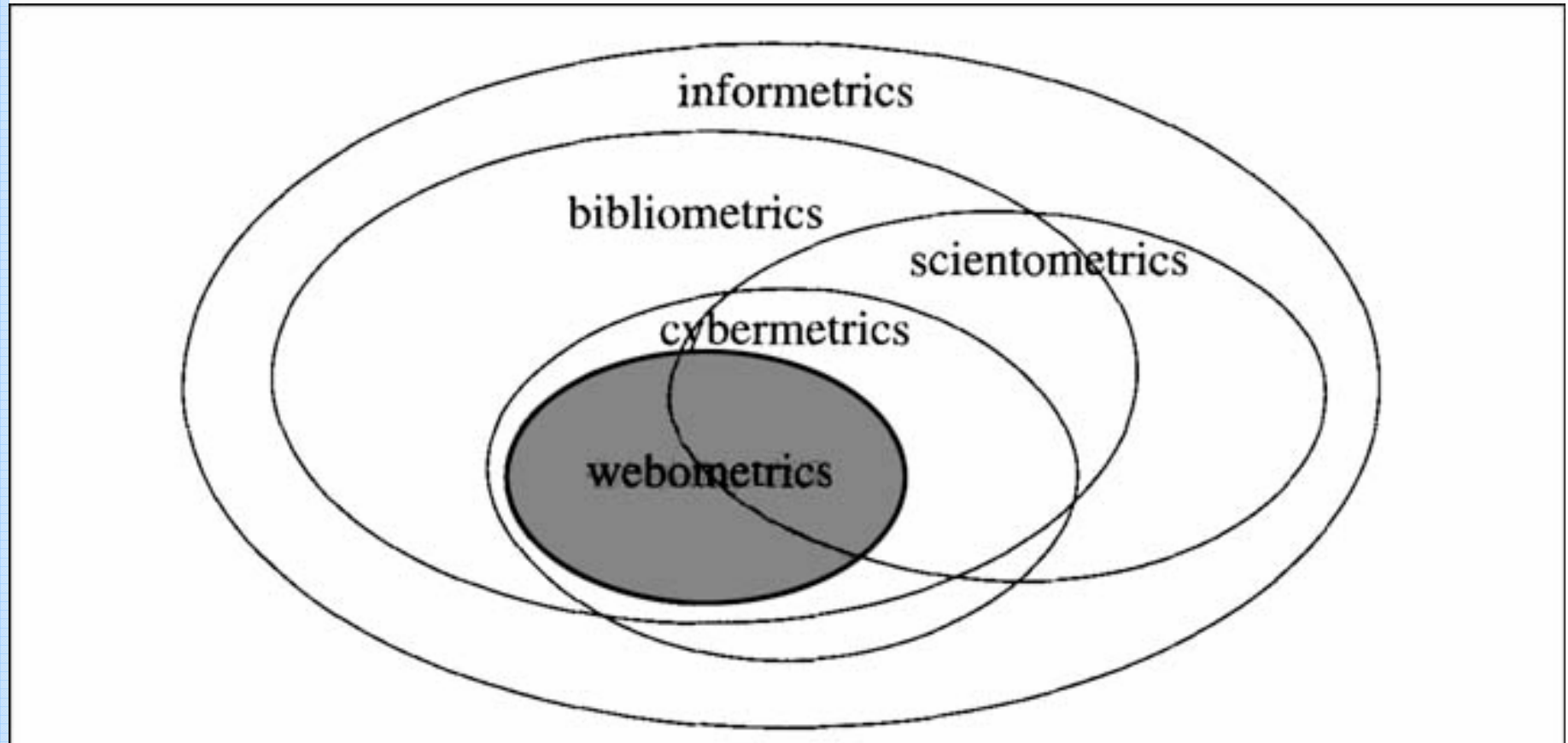
is a subdiscipline of information sciences and is defined as the application of mathematical methods to the content of information science.

Webmetrics

is the application of informetrical methods to the World Wide Web (WWW).



Definitions



Mike Thelwall, Liwen Vaughan & Lennart Bjorneborn: Webometrics *in*: Ann. Rev. Of Information Science & Technology (2006), p. 84



Traditional Bibliometric indicators

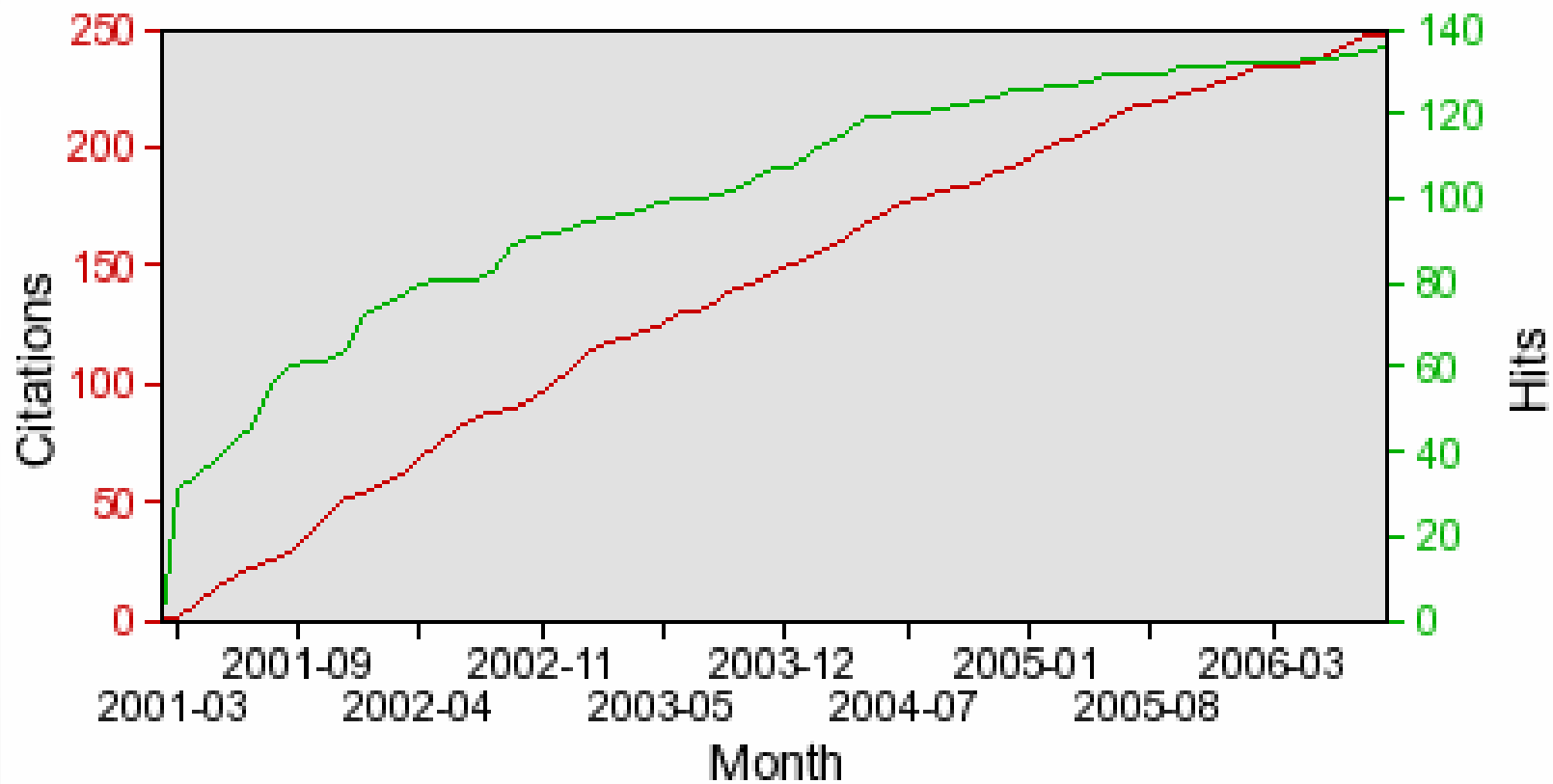
Statistics on Publications and citations by focussing

- a range of Publication Years
- a special Document Type
(review article, research article, Book, ...)
- a Subject / Topic
- an Institution
- ...

Citation and publication networks



Relationship between citation rate and downloads for a physics article over a set period of time





Summary

- Bibliometrics can give an overview of scientific activity
- The traditional Citation System is still the main tool for bibliometrics
- Bibliometric analyses are used in a standardised way for the STM-Sector
- Webmetrics makes a new quantitative correlations possible
- It will be interesting, what kind of changes of the communication process in science will be measured



To get in contact:

Dirk Tunger

Research Centre Juelich

52425 Juelich

Germany

++49 2461 616198

d.tunger@fz-juelich.de

www.fz-juelich.de/zb/bibliometrics



Thank you very much for your attention!

