

A SCIENTOMETRIC STUDY OF HEAT TRANSFER JOURNAL LITERATURE FROM 1900 TO 2016

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ABSTRACT

The present study conducts a scientometric study of the journal literature of heat transfer from 1900 to 2016 based on the database of Web of Science, 2017. A total of 109,196 items resulted from topic search (TS) using “heat transfer” as the keyword. The search fields are limited in the Title, Abstract, Author Keywords and KeyWords Plus with the dates from 1900 to 2016. The results of the present study illustrate that the journal literature growing exponentially. The document types, countries and languages, journal distribution, number of authors, institution productivity and paper citations are analyzed. Highly productive journals and authors and highly cited papers are identified.

The results reveal that English (96%) is the predominant language used for the publication of heat transfer, next by German, Japanese, French, Russian and Chinese. Ninety percent of papers are published with co-authors and 73.6% of the paper were published with two to four authors. The author distribution seems to follow Lotka’s law, with 61.7% of the authors published only one paper, and 15.9% of the authors published two papers. Highly productive authors are identified. *International Journal of Heat and Mass Transfer* is the most productive journal contributing 9.4% of the publications, followed by *Journal of Heat Transfer-Transactions of the ASME* (3.7%), *Applied Thermal Engineering* (3.2%), *International Communications in Heat and Mass Transfer* (2.2%) and *International Journal of Thermal Sciences* (1.9%). With regards to the paper citation, 66% of the papers were cited 0-9 times including 18.1% never cited, 16.3% with 10-19 citations, 7.1% with 20-29 citations and 1.3% with citations 100 to 499 times. There are 47 articles with citations more than 500 times including 12 papers cited more than 1000 times and one paper cited more than 2000 times. The subjects and their evolution are also analyzed.