

## Study on the Internationalization of Korean Nuclear Journals

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### 1. Introduction

This paper is intended to provide some thoughts for a listing of the Korean nuclear journals in the Science Citation Index(SCI), by an analysis of indicators based on the data gathered from relevant literature : Journal of Korean Nuclear Society(JKNS) and Nuclear Engineering and Technology (NET) as cited in the SCI source journal. The study examines as an indicator the number of papers in the JKNS and NET that have been cited by KAERI researchers in the SCI Source Journal (to the end of August 2006). This paper also gives a review of the statistics provided by the Institute for Scientific Information (ISI), as an authoritative source for an evaluation of a global cataloging of scientific and technical journals, and suggests a view for a listing of the Korean nuclear journals in the SCI by a review of associated selection criteria and methods. It concludes there is a need to increase the number of citations in the SCI source journals of the NET papers to be published from the most recent previous two years.

### 2. Analysis and Suggestion

Three subjects are described in this section. There are the survey of the citations in SCI source journal of KAERI researchers and the selection criteria and evaluations by SCI. From the result of these two, the guide for a listing of JKNS and NET is attached at the end.

#### 2.1 Survey of Citations in JKNS and NET

The search for a citation in the SCI source journals of papers appearing in the JKNS and NET relied on well-known databases, such as Web of Science and Dialog. The survey included the number of citations of the papers appearing in the JKNS and NET by SCI source journals and the number of citations done by KAERI authors among them.

This examination revealed a total of 58 citations of the JKNS and NET in the SCI source journal during the period of 2000~2006 and 172 for the period of 1996~2006. It also revealed there were a total of 168 papers authored by KAERI researchers in 48 SCI source journals that have made 219 citations of JKNS and NET for the period of 1998~ August 2006.

The yearly trend in the number of citations of the JKNS and NET papers authored by KAERI researchers as cited in the SCI source journals is shown in Figure 1. For a comparison, the trend of the publication years of the papers appearing in the JKNS and NET by KAERI authors is shown in Figure 2.

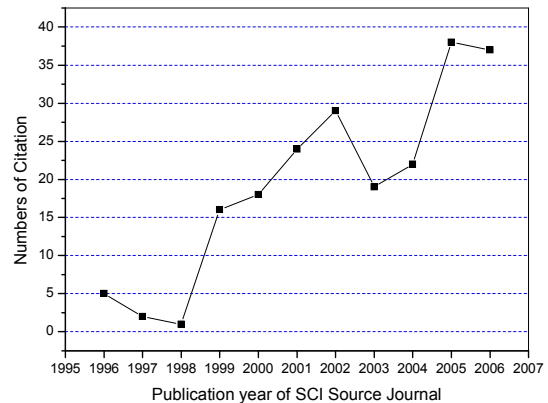


Figure 1. Yearly trend of papers by KAERI authors published in the SCI source journals referring to the papers appeared in JKNS and NET.

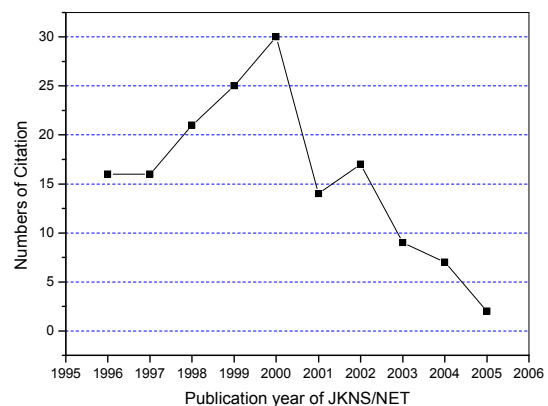


Figure 2. Yearly trend of published papers in the JKNS and NET cited by KAERI authors in the SCI

To be noted from this survey is the contrasting trends in the yearly number of citations between the SCI source journals and the referred papers in the JKNS and NET. This is an important fact to be discussed later.

#### 2.2. Selection Criteria and Evaluations by SCI

The Institute for Scientific Information (ISI) provides a service for scientific indices with a SCI on some 3,776 periodicals and an expanded version (SCI Expanded) on some 6,563 periodicals [1]. Since its establishment in 1958, the ISI has maintained a database with journal citation records on scientific periodicals providing information on such associated indicators as a Impact Factor, Total Cites, Immediacy Index, Cited Half-Life, etc. Having gained international acclaim as an indicator

in the performance of a scientific research, it has becoming a yardstick for an assessment of scientific papers in academia and research centers in Korea as well.

The selection of periodicals to be listed in the SCI is done by the editorial board of the ISI and a commissioned group of experts from outside. There are a variety of criteria for selection of a periodical to be listed in the SCI, including among others :

- Integrity of the publication
- Quality of the papers
- Internationality
- Index of citations

A key indicator used in the SCI criteria, to be noted in the context of this paper, is the Impact Factor which is defined as the number of citations in the SCI of the publication in the previous two years, compared to the total number of papers appeared in the publication for the same period. It is therefore obvious that the number of citations in the SCI source journals of the papers published in the JKNS and NET, especially for the previous two years, have to be increased in order to get them listed.

### 2.3 Suggestions for A listing of JKNS and NET

In view of the requirements discussed above, the promotion of the JKNS and NET for a listing in the SCI would call for some strategic actions such as :

- Setup of a steering committee and job assignments to appropriate members for promoting the necessary actions
- Promoting actions, such as encouraging authors in the SCI source journals to increase the number of citations of the papers published in the JKNS and NET for the previous two years and providing incentives such as awarding prizes to responsive authors
- Awareness campaign, such as dissemination of statistical information on the Cumulative Index of the NET journal in the previous two years or easy access to such information in the web
- Inducing foreign papers to be published in the NET from an international community of professionals
- Promoting campaigns for publicity of NET in the international network of publishers and internet based sites providing relevant sources of information

There may be some other effective measures.

### 3. Conclusion

The need for a listing the Korean nuclear journals in the SCI has been recognized with the increasing reliance of evaluating a research performance on such international services as ISI. This paper examined the possibility of JKNS and NET for being listed in the SCI by a survey of the current trends in the citations of the JKNS and NET papers published by KAERI authors in the SCI and the criteria for a selection, as used by the ISI for a listing.

The trend analysis indicated there has been a sharp increase since 2005 in the citations of NET papers in the SCI which is desirable in itself, but the year of those papers published in the NET recedes back mostly to the period of 1998~2000, far behind the relevant years 2003~2004. This is an issue which may have to be studied further. It is an unfortunate occurrence to be considered in the future, in terms of the Impact Factor which counts only the papers published in the previous two years.

The study also suggests a set of actions with a view to enhancing the possibility of a listing NET in the SCI, including an appropriate provision for preparing the targeted objectives, initiating actions to promote the awareness and publicity of the NET among the relevant authors and an international publisher network and internet.

### REFERENCES

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