

**Circulation Improvement of Articles in Journals written in  
Non-English Languages**  
**- A Special Journal Titles Translation List of Journals written in Japanese  
for the International Bibliographical Database -**

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Non-English articles are still “Grey Literature” due to language barriers even though material circulation has improved like English articles with the expansion of the Internet era. In the INIS Database, bibliographic information such as titles and abstracts etc. is written in English. This feature of the INIS Database contributes to improvement of international circulation of scientific information from the nuclear field. However, titles of journals written in non-English languages were described in transliterated Roman alphabet which means that non-native users cannot understand the nature or subject of those journals. Consequently, we developed a special journal titles translation list written in the Japanese language for the INIS Database, as an attempt to improve the circulation of articles in journals written in non-English languages.

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## 1. Introduction

### 1.1. The one of “Grey Literature” in the INIS Database

Today, the circulation of scientific information has improved internationally, and English which is the “international language” of choice takes the lead in scientific communication. On the other hand, non-English articles are still “Grey Literature” due to language barriers although physical circulation improves like English articles. In other words, non-English articles stand out from “Grey Literature” in the Internet era. However, we can find examples of non-English articles leading to Nobel Prizes which cannot be ignored. In this paper, we will introduce one of the Japan Atomic Energy Agency (JAEA) Library’s attempts to improve the circulation of articles written in non-English languages.

The International Nuclear Information System (INIS) is the open access database for published scientific literature on the peaceful uses of nuclear science and technology. INIS was established in 1970 by the International Atomic Energy Agency (IAEA). The INIS Database now contains over 3 million bibliographic records. INIS is operated by the IAEA in collaboration with 123 member states and 24 international organizations.

The INIS Database contains 25% bibliographic information of articles written in non-English languages (Fig. 1). As of November 2010, 3% of the articles in the INIS Database are written in Japanese which is the 4th ranked language. This is not so high but not too low. We cannot ignore these articles written in non-English languages.

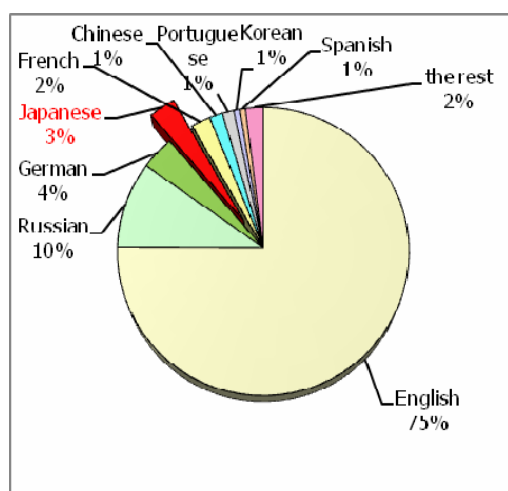


Fig. 1 Languages of articles in the INIS Database (As of Nov 2010)

### 1.2. Journals regularly scanned at the INIS National Center of Japan

JAEA was established in October 2005 as the sole research institute in Japan dedicated to comprehensive research and development in the field of nuclear energy, integrating the former Japan Atomic Energy Research Institute (JAERI) and the former Japan Nuclear Cycle Development Institute (JNC).

The JAEA Library is one of the largest nuclear information centers in Japan, and we support the scientific research and development activities throughout Japan. The JAEA Library maintains a circulating collection of books in physics, chemistry, computer science and engineering. The JAEA Library also collects the information on papers contributed to journals by JAEA staff, and publishes JAEA Reports for the dissemination of JAEA R&D results via the Internet. Another main role of the JAEA Library is working as the INIS National Center of Japan.

JAEA is designated by the Japanese government as the INIS National Center of Japan. We prepare bibliographic records about nuclear related literature published in Japan, and submit them to the INIS Database. Furthermore, we endeavor to promote the utilization of the INIS database in Japan. The INIS National Center of Japan sends 5,000 items to IAEA every year which is the 3rd most numerous among member countries in 2009 (Fig. 2).

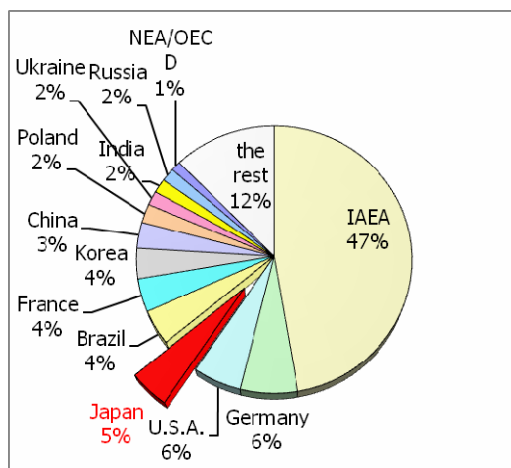


Fig. 2 Input from Member States (2009)

Since it is impossible for the JAEA Library to cover all journals published in Japan, JAEA plays a key role to integrate input prepared by the Japan Science and Technology Agency (JST) and the International Medical Information Center (IMIC). There are 491 regularly scanned journals in Japan. (Table 1)

Table 1 Journals regularly scanned in Japan

	Titles	Journals regularly scanned
JAEA	328	Core journals in nuclear field and open access journals
JST	33	Non-core journals (Environmental sciences, life sciences etc.)
IMIC	130	Non-core journals (Medical sciences etc.)

## 2. Backgrounds

### 2.1. The INIS bibliographic description for journal title

In the INIS Database, bibliographic information such as titles and abstracts etc. are written in English. This feature of the INIS Database contributes to improvement of international circulation of scientific information in the nuclear field. However, most titles of journals written in non-English languages were described in transliterated Roman alphabet due to the first edition of “INIS: Guide to Bibliographic description” (IAEA-INIS-1) which states that “A Journal title is entered in the original language”. It means “A journal title in non-English languages should be described in transliterated Roman alphabet.” At that time, this rule was based on the cataloging rule of International Organization for Standardization (ISO). Since September 1992, this rule has changed slightly, in IAEA-INIS-1 (Rev.8) and English titles of journals written in non-English languages are available. (Table 2)

Table 2 INIS bibliographic description for Journal title

<b>IAEA-INIS-1 (Rev. 7)</b>
<b><i>6.4.7 Serial/Journal Title (Tag 230, Bibliographic Level S)</i></b> <i>A Journal title</i> is entered <u>in the original language</u> , translated if Necessary.
<b>IAEA-INIS-1 (Rev. 8) (1992.9-)</b>
<b><i>3.8.4. Full Journal Title (Tag 229, Level S)</i></b> This field is only used for Type of Record J. It is a mandatory field and contains a standardized version of the original title of the journal. The title may be <u>in English or in a non-English language</u> .

As in Table 2, English titles of journals written in non-English languages are available in the INIS Database now. However, INIS national Center of Japan is not using English titles of journals written in Japanese for bibliographic descriptions of the INIS Database. Some English titles of journals written in non-English languages are listed in “INIS: AUTHORITY LIST FOR JOURNAL TITLES” (IAEA-INIS-11), but they are not perfect.

Figure 3 is a sample of the INIS search result for a journal written in Japanese. This bibliographic information is described in English. However, the journal title is described in transliterated Roman alphabet. The English title for the “Nippon Genshiryoku Gakkai-Shi” is the “Journal of the Atomic Energy Society of Japan”. Non-Japanese-native users cannot understand the nature or subject of journals with this title and therefore do cannot obtain useful articles. This language barrier should be broken as much as possible for improved circulation of journals written in non-English languages.



Fig. 3 Search result of the INIS Database

## 2.2. Purpose of this study

As described in a previous section, in the INIS Database, for only journal titles in transliterated Roman alphabet means that non-Japanese-native users are unable to understand meanings. On the other hand, for only English title, non-Japanese-native users can locate journals; however, it is difficult for Japanese-native users to identify the journal since they recognize journals with Japanese title. By including both the transliterated Roman alphabet title and the English title, all users can locate and identify the journal. Additionally, Japanese titles described in Chinese characters are more convenient for users who can understand the meanings like Japanese and Chinese people. Such feature of different language titles is shown in Table 3.

Table 3 Feature of each title

	for Japanese-native	for non-Japanese-native
in Transliterated Roman alphabet (the INIS Database)	can locate.	difficult to understand meanings...
in English	can locate, but difficult to identify...	can locate.
in Japanese	can easily locate!	difficult to understand meanings...

In other words, the journal titles translation list including titles in transliterated Roman alphabet, English and Japanese is helpful for all users (Fig. 4). The list will also improve the circulation of articles in journals written in Japanese. Consequently, we have developed a special journal titles translation list of journals written in Japanese for the INIS Database.

The purpose of developing the list is for non-Japanese-native INIS users' convenience. Another purpose is to improve the circulation of articles in journals written in Japanese. Additionally, this list is effective to manage regularly scanned journals in the INIS National Center of Japan as basic data of Japanese journals in the nuclear field.

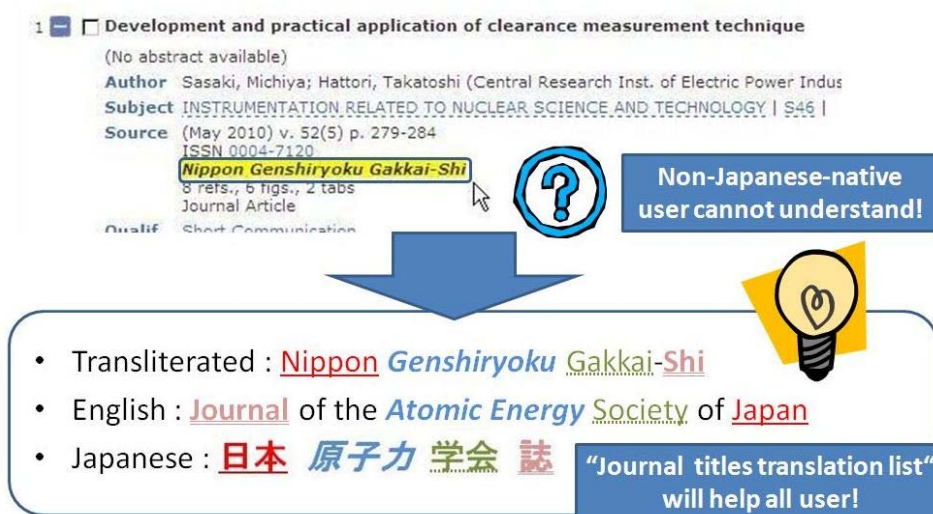


Fig. 4 Purpose of developing the list

### 3 The journal titles translation list of journals written in Japanese

#### 3.1 Outline of the list

We use Microsoft Excel for making the list. As a first step, we checked the JAEA Central Library catalog and examined titles of regularly scanned journals written in Japanese. These 154 titles are core journals in the nuclear field collected in Japan. Data are flags of key journals, titles (transliterated Roman alphabet/Japanese/English), ISSN-L, ISSN (print, online, digital media), CODEN, media type (print, online, digital media), frequency of publication, publisher (Japanese/English), URL (online journal, publisher), type of journal (academic, letters, membership, technical etc.), language and the call number of the JAEA Library. We surveyed not only journal titles in each language but also other information aimed at users' convenience and our management of the list.

We surveyed journal titles and items in printed media, online journal, journal website, publisher website, NDL-OPAC (Japan's National Diet Library OPAC), NACSIS Webcat and INIS: AUTHORITY LIST FOR JOURNAL TITLES (IAEA-INIS-11).

#### 3.2 Advantages

Figure 5 is the list made up through this work which contains journal titles with other information such as ISSN, CODEN and publisher etc. The transliterated Roman alphabet titles in the INIS Database are identified and are necessary not only for the INIS users but for its bibliographic agencies consisting of the INIS secretariat, other INIS member countries and international organizations like us. The Japanese titles written in Chinese characters are easily identified visually due to feature specific to Chinese characters, each of which has a meaning, making Japanese titles very helpful to not only Japanese but Chinese people as well. Then the English titles are, of course,

most useful for most people who use English commonly.

The point of this list is the greater contribution to the circulation of journal articles written in Japanese. That is, all people such as users, bibliographic agencies etc. can identify and locate on websites, a specific journal by referring to this list even if their language is different from each other, i.e., English, Japanese and Chinese. This list is also very useful for people who would like to refer to, or access, Japanese information, knowledge and skills etc., for example, in-situ specifics, in the field of nuclear science and technology.

	(transliterated)	(Japanese)	(English)	(more...)
1	INS-Authority	Title (Japanese)	Title (English)	ISSN-L (print)
916	Nippon Genshiryoku Gakkai Webun Ronbunshi	日本原子力学会論文誌	Transactions of the Atomic Energy Society of Japan	1347-2879 1347-2879 -
917	Nippon Genshiryoku Gakkai-Shi	日本原子力学会誌	Journal of the Atomic Energy Society of Japan	1882-2606 1882-2606 -
927	Nippon Hoshasen Anzen Kanri Gakkai-Shi	日本放射線安全管理学会誌	Japanese Journal of Radiation Safety Management	1347-1503 1347-1503 -
939	Nippon Jiki Gakkai Kenkyukai Shiryō	日本磁気学会 研究会資料	Bulletin of Topical Symposium of the Magnetics Society of Japan	1882-2940 1882-2940 -
948	Nippon Kaisui Gakkai-Shi	日本海水学会誌	Bulletin of the Society of Sea Water Science, Japan	0369-4550 0369-4550 -
954	Nippon Kenchiku Gakkai Kenkyukai Ronbunshu	日本建築学会環境系論文集	Journal of Environmental Engineering (Transactions of AIJ)	1348-0685 1348-0686 16
956	Nippon Kenchiku Gakkai Keikakukai Ronbunshu	日本建築学会計画系論文集	Journal of Architecture and Planning (Transactions of AIJ)	1340-4210 1340-4210 16
958	Nippon Kenchiku Gakkai Kozokei Ronbunshu	日本建築学会構造系論文集	Journal of Structural and Construction Engineering (Transactions of AIJ)	1340-4202 1340-4202 16
961	Nippon Kessho Gakkai-Shi	日本結晶学会誌	Journal of the Crystallographic Society of Japan	0369-4585 0369-4585 16
964	Nippon Kikai Gakkai Ronbunshu, A Hen	日本機械学会論文集A編	Transactions of the Japan Society of Mechanical Engineers	0387-5008 0387-5008 -
965	Nippon Kikai Gakkai Ronbunshu, B Hen	日本機械学会論文集B編	Transactions of the Japan Society of Mechanical Engineers	0387-5016 0387-5016 -
966	Nippon Kikai Gakkai Ronbunshu, C Hen	日本機械学会論文集C編	Transactions of the Japan Society of Mechanical Engineers	0387-5004 0387-5004 -

Fig. 5 Sample of the list

### 3.3. Issues occurred

Some journals have no official English title. These titles were filled in transliterated Roman alphabet of official Japanese title and will be identified by “publisher” and “type of journal”. For example, “BUTSURI” (“Physics” in Japanese) is identified by “Physical Society of Japan (publisher)” and “Membership journal (type of journal)”.

Meanwhile, some journals have those English titles as a cover design or web design and it is difficult to determine the official English title. In this list, such titles are contained for users’ convenience.

### 4. Conclusion

We are now checking and evaluating the first step of the list. After that, we will complete the list (Non-core, titles of journal written in English) and release the list on the INIS Database and JAEA Library website. Subsequently, we will distribute the printed list to foreign researchers at the JAEA Library. In the future, we would like to incorporate the English titles into the INIS Database in cooperation with the INIS Secretariat and promote the idea of the list in other non-English languages.

In this paper, we introduce one of our continuous efforts to improve international

circulation of articles written in non-English languages. The circulation of scientific information improves spectacularly with the development of computer and globalization today. However the international circulation of academic information is still done in English which is the “international language” and the circulation of non-English languages still has many issues to be solved. These issues are common for all non-English languages, especially, for non-alphabetical languages. These are very basic issues, but very important. And these are old issues, but still relevant to today.

## **References**

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- Nagayama, Taisuke; Narui, Keiko; Habara, Takako. “A study of bibliographic description of journals written in Japanese on international circulation”. Proceedings of the 5th National Convention for the Study on Information and Documentation, Tokyo, Japan, 14-15 November 1968, The Japan Information Center of Science and Technology, 1968, p. 111-116. (Japanese).