

§6. The Chronology of the International Exchange of Nuclear Fusion about Universities in Japan

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1. Purpose of this research

The international exchange of the science is the important activity in studying science. The researcher with the aim of the nuclear fusion had also made efforts in order to obtain overseas information from the initial time. The Purpose of this research is to draw up the chronological table on the international exchange of Nuclear Fusion in Japan. Especially, we examined the activity of the nuclear fusion community of Japan in order to participate in the international conferences.

2. Content and conclusion of the research

2-1. Method of research

We investigated the proceedings as historical materials preserved in NIFS Fusion Science Archives. Investigated materials are as follows.

1. The proceedings of the Special Committee for Nuclear Fusion (Kakuyugo tokubetu iinkai) of Science Council of Japan (SCJ)
2. Some trip reports of international conference reported in the academic journals, the journal of the nuclear fusion study (Kakuyugo-Kenkyu), the journal of the electrical discharge study (Houden-Kenkyu), etc.
3. “Analysis of present condition and proposition about international exchange of nuclear fusion (Kakuyugou kokusai kouryu ni kansuru genjou bunseki to teian)” in September 1977, the sub-committee of international exchange (Kokusai kouryu iinkai) of the Special Committee for Nuclear Fusion.
4. “Analysis of present condition and suggestion to the future about international interchange of nuclear fusion (Kakuyugou kankei kokusai kouryu no genjou bunseki to shourai eno teigen)” in May 1980, the sub-committee of international exchange.

2-2. Preparation of the Chronology

Based on the materials mentioned above, we made the chronology on the international exchange of Nuclear Fusion in Japan. We subdivide the chronology into three categories.

(a) The trend of the nuclear fusion community in Japan.

This category shows the trend of nuclear fusion community in Japan for the international conferences.

Example 1957

1. The third international conference on phenomena in ionized gases held in Venice in June 1975

Kanji Honda (Professor of the University of Tokyo) announced

about the research of the super high-temperature plasma.

2. The 2nd Assembly on Nuclear Fusion Reaction in November 1957.

(b) Trip report of the international conferences

In order to know the impression of Japanese researcher who attended the international conference, we investigated some trip reports of the international conference reported in the journal of nuclear fusion study in Japan. We newly excavated some materials of this category.

Example 1965

- Shigeru Mori (Japan Atomic Energy Research Institute): “Trip Report of Overseas Nuclear Fusion Research”, JAERI-memo No.2106, November 5, 1965.

(c) International conferences, international exchanges, inspections abroad tour

This category shows the conferences and others which Japanese researchers attended.

Example 1955

1. The first international conference on the peaceful uses of atomic energy in Geneva of Switzerland, August 1955. Homi J. Bhabha who was a chairman of the conference explained that the nuclear fusion would be achieved within twenty years. (“I venture to predict that a method will be found for liberating fusion energy in a controlled manner within the next two decades.”)
2. The second international conference on phenomena in ionized gases in Delft of Netherlands.

3. Location of materials and future planning

In order to know the flow of the international exchange in Japan, we would like to make the fundamental chronology. The historical materials of nuclear fusion that we found through this research were stored in NIFS Fusion Science Archives. In the reason, we have carried out our investigation since 2005, and made the chronology based on the result of our investigation. As the result, some problems are clarified and they become our future research subject as follows.

- (a) Based on the chronological table that we made, we would like to investigate the correspondence of Japanese researchers of nuclear fusion community to the international conference. At first, we would like to investigate the correspondence of Japanese researchers to IAEA Fusion Energy Conference.
- (b) By investigating not investigated materials of nuclear fusion study, we find buried fact. And by adding the fact to the chronology, we make the detailed chronology.
- (c) Furthermore, we would like to find and investigate many trip reports of Japanese, American, English, Russian, etc. of each international conference. This investigation seems to be able to clarify the interest on the nuclear fusion of each country.

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