

## §7. Archival Studies on History of IAEA Fusion Energy Conference

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### 1. Background and Purpose

IAEA Fusion Energy Conference is known as the most important conference in the field of nuclear fusion research. The name of the nuclear fusion would be known by the speech of chairperson Homi J. Bhabha in the first United Nations Conference on the Peaceful Uses of Atomic Energy in 1955. In the second United Nations Conference in 1958, the session of nuclear fusion was established, and researchers from many countries announced the result of the nuclear fusion research. Consequently, the International Atomic Energy Agency (IAEA) established in 1957 would hold the Conference on Plasma Physics and Controlled Nuclear Fusion Research. This conference was renamed IAEA Fusion Energy Conference in 1996.

After the second United Nations Conference, the research of the nuclear fusion is half a century old by this year. Therefore, History of Science Laboratory of CST Nihon University, NIFS Research Information Office and NIFS FSA started in 2007 the cooperative research on archival studies of the history of IAEA Fusion Energy Conference. At first, we investigated the conference reports written by Japanese and American researchers who attended the IAEA Conference. By comparing their conference reports, we analyzed what they were interested in.

### 2. Content and result of this research

#### 2-1 Correspondence of nuclear fusion community of Japan for the first Conference on Plasma Physics and Controlled Nuclear Fusion Research (the Salzburg Conference)

The Salzburg Conference was held in September, 1961. The nuclear fusion community of Japan could not correspond accurately to the participation in the international conference, because the community was at the dawn stage. The participation in the international conference was discussed in the Special Committee of Nuclear Fusion (Kakuyugou tokubetsu iinkai) of Science Council of Japan in the year when the Conference took place. Consequently,

Tasaburo Yamada (the Electrotechnical Laboratory) would deliver the lecture on the theme of "The theta pinch device of the Electrotechnical Laboratory in Japan" as a representative of Japan. However, he canceled his presentation, because Yamada did not attend the conference. Announcements and lectures by Japanese were informally carried out after the Conference. Tadashi Sekiguchi who attended the Salzburg Conference wrote a conference report. He described that the community of the nuclear fusion should prepare for the participation of the international conference one year before the next conference, and we would like to contribute as much as possible to development of the nuclear fusion of the world. In addition, Taro Kihara described that the countermeasure had to be taken one year before the next conference. Generally speaking, one year will be necessary to make some measures to contribute to the next conference.

#### 2-2 Conference Reports of the Salzburg Conference

Researchers participated in the Salzburg Conference from Japan, U.S.A., Soviet Union, etc. wrote conference reports. We collected them and examined the contents of trip reports.

L.A.Artsimovich compared the situation of the research of the nuclear fusion in those days to "Purgatory" in the Salzburg Conference, and we also had such impression just from these trip reports. However, their common interests in the conference reports were in the future of nuclear fusion study and in the stabilization effect by Ioffe-bar. On the former, the researcher had the optimistic opinion that the nuclear fusion reactor had not been easily completed by the studies so far, however, the reactor would be successful by the development in the future. On the latter, researchers of the foreign country took Ioffe-bar seriously, but Japanese researcher did not pay attention to it.

### 3. Location of materials and future planning

We are able to know correspondence of nuclear fusion community of Japan to the Salzburg Conference by proceedings. So, we would like to examine whether the nuclear fusion community of Japan properly corresponded to the next international conference through this bitter experience or not.

In addition, we are able to know opinions of the researchers in the Salzburg Conference by investigating conference reports. We would like to collect conference reports which researchers of various countries wrote. At present, the location of the conference reports of participating countries is under investigation.

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