

# 13. Fusion Science Archives (FSA)

The Fusion Science Archives (FSA) were established in 2005 to learn lessons from preserved past fusion science archives and to maintain collections of historical documents and materials that are related to fusion research in Japan. These activities are important from the viewpoint of the historical evaluation of fusion research, its social accountability, and making references for seeking future directions. Since then, historical materials on fusion research and/or organizations related to it have been collected and preserved at the FSA. They are stored in acid-free folders and boxes. Catalogs of registered items are available to the public through the Internet in a hierarchical structure. In FY2023, the FSA office was moved to Research Building I and the archives were relocated to the second floor in the library building. The cataloged database of about 28,500 items is stored in FileMaker for internal use. Among these, catalogs of about 6,000 items are available through a web page from outside NIFS.

The following are summaries of selected collaborative works performed this fiscal year.

- **Studies on the history of the establishment of the Institute of Plasma Physics, Nagoya University**

T. Amemiya (CST Nihon Univ.) *et al.*

The Institute of Plasma Physics, Nagoya University (IPPJ) was established in 1961 as the first Inter-University Research Institute of plasma physics and controlled fusion research in Japan. The IPPJ is one of the predecessor bodies of today's NIFS. This collaborative research aims to find new historical interpretations by the IPPJ and a discussion about institutes at the dawn of fusion research in Japan, based on historical documents in NIFS FSA and other science archives. This collaborative research of FY2023 consists of the following subjects: 1) History of a discussion about the new institute in the fusion researcher community before the establishment of the IPPJ. 2) A discussion at the Ultra High Temperature Research Society, related to the establishment of the "Institute for Ultra High Temperature" of Osaka University.

- **Analysis of Husimi Kodi Documents on Early Stage Nuclear Development in Japan**

H. Iguchi (NIFS, FSA) *et al.*

Historical documents left by Kodi Husimi on the development of nuclear technology in Japan are reserved in the NIFS Fusion Archives. We investigated those materials in detail, especially for the latter half of the 1950s. The Japanese policy on nuclear development started with importing foreign advanced technology. The key events were the passage of the nuclear budget in 1954 (ID: 503-03-12) and the "Agreement for Cooperation Concerning Civil Uses of Atomic Energy Between the Government of Japan and the Government of the United States of America" (539-09-02). The first step was to import the British Calder-Hall Nuclear Reactor. The Japan Atomic Power Company was established as an operating institution. The Science Council of Japan stated that discussion on safety, such as on earthquake resistance, was not enough, but the Japan Atomic Energy Commission gave permission for its establishment (504-12-03).

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- **Historical Study of Nuclear Energy Development and Utilization Policies in Japan**

S. Kobori (Kyoto University) *et al.*

This study aims to clarify the history of nuclear power development policies in Japan in conjunction with the organization and analysis of historical materials held in the Fusion Science Archives. In FY 2023, we organized the Kazuhisa Mori Papers over three days and analyzed the documents regarding the following themes: (1) nuclear power plant location measures by the government and the Japan Atomic Industrial Forum, (2) the reorganization of the Japan Atomic Energy Commission in the 1970s, and (3) the planning of energy and global environmental policies.

- **Organization, registration and analysis of historical documents and materials of Tihiro Ohkawa**

S. Kubo (Chubu Univ.) *et al.*

Tihiro Ohkawa's materials which had been left in the study of his home after his death were transferred to NIFS Fusion Science Archives (FSA) in 2016. These materials include notes, manuscripts, memos, papers, and his book collections in a wide range of fields. Although a well organized memorial reflections web site is already open (<https://fusion-holy-grail.net/>) , it mainly relies on personal remembrances, and should be supplemented by archival materials. On the occasion of the relocation of the FSA library, these materials, which have been restored in conservation boxes, are now under classification and registration to be archived.

- **Investigation on the trend of light sources for plasma spectroscopic research in Japan from the chronicle of collaborative research meeting on plasma spectroscopy**

N. Yamaguchi (Comprehensive Research Organization for Science and Society (CROSS)) *et al.*

A collaborative meeting on plasma spectroscopy has been hosted by the Institute of Plasma Physics, Nagoya University (IPPJ) and NIFS for over half of a century from 1969. Keywords relevant to light sources for spectroscopic research have been extracted from about 1300 papers presented in meetings from 1969 to 2017. The accumulated number of keywords is 552. The three types of light source which are “laser-plasma”, “tokamak” and “LHD” have been analyzed. The count of each keyword is 89, 69 and 68, respectively. The appearance frequency of the three keywords reflects the trend of plasma spectroscopic research in Japan.