

1. US-Japan (Universities) Fusion Cooperation Program

The both sides of US and Japan are agreeing the usefulness and necessity of the continuation of the US-Japan Joint Activity in the area of fusion research. So, the development of the scheme for the US-Japan Joint Activity is being considered.

NIFS as a member of "Inter-University Research Institute, National Institutes of Natural Sciences" conducted successfully the LHD experiments as well as theory and simulation together with collaborators from Universities, JAEA and the international institutions.

One of the main activities of the Japanese university researchers participating in the US-Japan collaboration is the research in the national spherical torus experiment (NSTX) in Princeton University, while many US researchers participated in the LHD experiments and also in the field of theory and simulation as usual.

The US-Japan joint project: TITAN (Tritium, Irradiation and Thermofluid for America and Nippon) project is going further in the second year from the start.

Fusion Physics Planning Committee (FPPC)

In the area of fusion physics, out of 44 exchanges 36 were completed. This completion number is almost the same level as in the previous year. The workshops were successfully held, and the exchanges continue to be productive and beneficial to both sides. The annual meeting of the FPPC was held by a televideo communication on April 22, 2009 between the DOE – Germantown offices and three sites in Japan (JAEA Tokyo office, NIFS, and University of Tokyo). Participants were from Universities, NIFS, JAEA, and DOE to summarize the 2008 activities and formulate the 2009 activities. The participants agreed that it should be noted that there are other US-Japan exchanges under the other activities such as the IEA implementing agreements and ITPA. The FPPC exchanges continue to contribute to scientific advances in both Japan and the U.S.

Joint Institute for Fusion Theory (JIFT)

Almost all of the activities in the three categories - workshops, personal exchanges, and joint computational projects were carried out during the past year.

All three workshops were successfully held, in addition to the JIFT Steering Committee meeting. In the

category of personal exchanges, two Visiting Professors and five Visiting Scientists made exchange visits. The JIFT joint computational projects were terminated at the end of JFY 2008 in accordance with the expiration of Annex II document on a Data Link and data link projects for fusion. This termination was based on the present situation in which the regular Internet now provides sufficiently fast communication capabilities for US-Japan exchange activities.

Fusion Technology Planning Committee (FTPC)

The TITAN project is being successfully conducted. The results will give a firm basis for comprehensive understanding on overall performance of DEMO-grade system including tritium transport, thermofluid and irradiation synergism. Of the planned cooperative items related to the TITAN, were completed in this fiscal year as follows: committee meeting, personnel exchanges, and workshops/technical meetings.

Personal exchange programs are continued in 6 research fields, namely, superconducting magnets, low-activation structure materials, plasma-heating technology, blanket engineering, high-heat flux components, reactor design & others. Of the 11 planned cooperative items related to the general technology joint planning categories, 9 were completed as follows: 4 workshops/technical meetings and 5 personnel exchanges.

The 25th Executive Secretary Meeting (ESM) will be held by a televideo communication on July 8, 2009 in Tokyo and Toki, Japan and in Germantown, US. It will be noted that both sides are having developed a significant and mutually valuable collaboration involving all technical elements of the fusion energy sciences program, and also discussing about bilateral programs, multi-lateral activities, and a safety monitoring activity.

General Secretary for US-Japan
Collaboration Planning Committee
Shigeru Sudo

STATISTICAL REVIEW OF FUY 2008 EXCHANGE PROGRAM (NIFS)

Grand Total

		US → J	J → US	Total
Proposed	Man	98	129	227
	Item	47	67	114
Performed	Man	93	112	205
	Item	42	54	96

(3) Plasma Heating Related Technologies

		US → J	J → US	Total
Proposed	Man	3	8	11
	Item	3	3	6
Performed	Man	2	8	10
	Item	2	3	5

Personnal Exchange Program

(Including Overall Planning)

		US → J	J → US	Total
Proposed	Man	27	2	29
	Item	2	1	3
Performed	Man	27	2	29
	Item	2	1	3

(4) Blankets

		US → J	J → US	Total
Proposed	Man	0	0	0
	Item	0	0	0
Performed	Man	0	0	0
	Item	0	0	0

Fusion Technology

(1) Superconducting Magnets

		US → J	J → US	Total
Proposed	Man	0	0	0
	Item	0	0	0
Performed	Man	0	0	0
	Item	0	0	0

(5) In-Vessel/High Flux Materials and Components

		US → J	J → US	Total
Proposed	Man	0	6	6
	Item	0	2	2
Performed	Man	0	5	5
	Item	0	1	1

(2) Structural Materials

		US → J	J → US	Total
Proposed	Man	0	0	0
	Item	0	0	0
Performed	Man	0	0	0
	Item	0	0	0

(6) Others

		US → J	J → US	Total
Proposed	Man	8	0	8
	Item	3	0	3
Performed	Man	8	0	8
	Item	3	0	3

Fusion Physics

(1) Planning

		US → J	J → US	Total
Proposed	Man	0	7	7
	Item	0	3	3
Performed	Man	0	7	7
	Item	0	3	3

(2) Steady-state Operation

		US → J	J → US	Total
Proposed	Man	6	3	9
	Item	1	3	4
Performed	Man	6	1	7
	Item	1	1	2

(3) MHD and High Beta

		US → J	J → US	Total
Proposed	Man	1	12	13
	Item	1	5	6
Performed	Man	1	9	10
	Item	1	2	3

(4) Confinement

		US → J	J → US	Total
Proposed	Man	0	8	8
	Item	0	4	4
Performed	Man	0	3	3
	Item	0	3	3

(5)Diagnostics

		US → J	J → US	Total
Proposed	Man	16	7	23
	Item	11	7	18
Performed	Man	13	5	18
	Item	8	5	13

(5)High Energy of Fusion Science

		US → J	J → US	Total
Proposed	Man	7	14	21
	Item	4	6	10
Performed	Man	7	13	20
	Item	4	5	9

Joint Institute of Fusion Theory

		US → J	J → US	Total
Proposed	Man	14	27	41
	Item	11	15	26
Performed	Man	14	26	40
	Item	11	14	25

DOE/MEXT MATERIALS (ANNEX I , TITAN Project)

		US → J	J → US	Total
Proposed	Man	16	35	51
	Item	11	18	29
Performed	Man	15	33	48
	Item	10	16	26

(Sudo, S.)