

§2. Activities on ITER Collaboration

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Our activities on ITER collaboration have already started from one year before our institute was regenerated as the Inter-University Research Institute, National Institute of Natural Science on April 1st, 2004. On the basis of discussion about the supporting method for ITER project, the ITER research coordinating group with three persons was organized under the Academic Research Coordination Laboratory in the Coordination Research Center, which was newly formed in our institute. Our important work is to make a structure which enables us to participate in ITER project with ease and with high evaluation.

First of all, in order to discuss the broader issues on ITER project, we organized a coordinating committee on ITER collaboration, which consists of our specialists in various physics and technology fields including visiting professors from JAERI. The first meeting was held on 25 June and discussed about a general plan of activity on ITER collaboration in this year. Main items are indicated as follows:

- (1) promotion for active research on ITER project
- (2) exploitation of budgets for ITER relating researches
- (3) advertisement of ITER collaboration activities
- (4) enhancement of evaluation for ITER researches

Secondly, in order to understand our potentiality for ITER collaboration, we listed up the relating researches including general tokamak research issues and found that there were many issues connected with the ITER research in the view point of plasma confinement in toroidal system and development for future fusion reactor system. The International Tokamak Physics Activity (ITPA) is a very important task for making the ITER project successful. Therefore, we are strongly promoting to attend the ITPA meetings, which are divided into seven groups (MHD, Disruption and Control; Confinement Database and Modeling; Transport Physics; Pedestal and Edge; SOL and Divertor; Steady State Operation; Diagnostics). Each group meeting is planned to hold two times every year and a large number of our colleagues attended to the meetings as shown in Table 1 and Table 2. In 2004, the total participants amounts to 34 persons and there were as many as 11 presentations, which drew much attention in terms of comparison between tokamak and helical plasmas. This collaboration is also very important for understanding a toroidal plasma comprehensively.

To build up a closer connection with the Japan Participant Team for ITER Transitional Arrangements is one of important works in our group. We have arranged for the periodical meeting with the domestic ITER team and the meeting has been held two times in 2004. We have been discussing the collaboration items and how to execute,

taking into account each situation before the establishment of ITER organization. We are also closely connecting with the Fusion Forum, which is promoting a nuclear fusion research including the ITER project in Japan. On the other hand, in order to ask university researchers the opinions for ITER collaboration, we presented our activities in the coordinating meeting of Fusion Network including fusion engineering and plasma science.

Another important work is to enhance the evaluation for ITER researches. Our activities in 2004 were reported in the main meetings (LHD experimental results, large scale computer simulation results, etc.) in our institute. In addition, We have made up a WEB page on ITER collaboration activities including the outline of ITER project, the plans and reports of our activities.

| Topical Group | Date (Place) | Participants (Presentations) |
|--|------------------------|------------------------------|
| Sol and Divertor | 13-16 Jan. (Naka) | 2 (0) |
| Diagnostics | 18-21 Feb. (Naka) | 3 (0) |
| | 23-24 Apr. (San Diego) | 1 (0) |
| MHD, Disruption and Control | 5-6 Feb. (Naka) | 6 (0) |
| Confinement Database and Modelling | 8-11 Mar. (Naka) | 2 (1) |
| Transport Physics | 8-12 Mar. (Naka) | 5 (3) |
| Steady State Operation and Energetic Particles | 8-12 Mar. (Naka) | 8 (2) |

Table. 1. ITPA Meeting in Spring 2004

| Topical Group | Date (Place) | Participants (Presentations) |
|------------------------------------|--------------------|------------------------------|
| MHD, Disruption and Control | 8-10 Nov. (Lisbon) | 1 (1) |
| Confinement Database and Modelling | 8-10 Nov. (Lisbon) | 0 |
| Transport Physics | 8-11 Nov. (Lisbon) | 2 (2) |
| Pedestal and Edge | 8-10 Nov. (Lisbon) | 2 (1) |
| Sol and Divertor | 8-11 Nov. (Lisbon) | 1 (1) |
| Steady State Operation | 8-10 Nov. (Lisbon) | 1 (0) |

Table. 2. ITPA Meeting in Fall 2004