

§16. Establishing Coalition Among Scientific Communities Associated with Plasma Physics

Ishihara, O. (Yokohama National Univ.),
Ono, Y. (Univ. Tokyo),
Kishimoto, Y. (Kyoto Univ.),
Tanaka, K. (Osaka Univ.)

Objective

Plasma science is a basic research characterized by a vast area of fields including research on nuclear fusion, space physics, astro plasma physics, and applied mathematics. Plasma science is an interdisciplinary research and has a potential to influence on technological advances as well as on the development of basic science. It is thus important to advance plasma physics research through developing collaboration among related areas of study. Our strategy for this purpose is to establish human network in the related areas. The established network will set up the opportunity to exchange ideas and to initiate research collaboration.

The present activities have a special purpose to itemize common research subjects and to initiate future joint research efforts among the researchers of plasma related areas.

Activities

To achieve our goal we, Division of Plasma Physics, Physical Society of Japan (JPS), initiated the project entitled '**Establishing Coalition among Scientific Communities Associated with Plasma Physics**'. Executive committee, 11 members including a chair, vice-chair, a former chair and officers, in the division of plasma physics planned the overall strategy. The associated societies include Astronomical Society of Japan (ASJ), Society of Geomagnetism and Earth, Planetary and Space Sciences (SGEPSS) and others. We have launched a joint meeting among three societies, each year hosted by one society.

Joint meeting among JPS-ASJ-SGEPSS

In 2005, we had a first joint meeting at the site of JPS and almost 300 papers were presented at the meeting. This was almost 100 papers more than usual JPS meeting. In May of 2006, SGEPSS hosted the joint meeting at Makuhari Messe in Chiba Prefecture, where more than 60 papers were presented from members of JPS. The third joint meeting was held in September 2007 hosted by ASJ at Gifu University. In Gifu, the session leaders organized 8 different interdisciplinary topics. The overwhelming success of the joint meetings ensures us to continue the joint venture in the future.

Through the joint meetings, members of three societies shared the sentiment that many of the physical processes involved in basic plasma physics and nuclear fusion research are common in magnetospheric physics as well as in space and astro physics. Many of the processes involve multiscale physics and structure formation through the energy release and atomic/molecular elementary processes. In the meetings the methods of simulation and diagnostic techniques were also discussed.

We have also contacted other societies including The Japan Society of Plasma Science and Nuclear Fusion Research (JSPF), The institute of Electrical Engineers in Japan, The Japan Society of Applied Physics, The Institute of Engineers on Electrical Discharges in Japan. The broader coalition is now discussed among those leaders.

Meanwhile, in our own division in JPS, there is an emerging field of high energy density physics as an application of, e.g., ultra high intensity lasers. We had a joint session with the division of beam physics in the JPS annual meeting.

The National Institute for Fusion Science (NIFS) has been playing a key role by hosting our executive committee meetings as well as selection meetings for young scientists award by JPS.