

§2. Establishment of Atomic and Molecular Data Application Forum

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Recent fast, significant and remarkable advancement we have witnessed in past decades in areas such as high-tech. industries, medical research, environmental science, atmospheric science, fusion sciences as well as other basic sciences including astrophysics and radiation physics and chemistry fully depend on extensive utilization of atomic and molecular (A&M) data for structures basic understanding of various phenomena, but also establishing guiding new key principles and basic technologies based on simulations with this accurate and complete A&M data basis. Without this A&M data basis, such an impressive progress of our technologies and basic understanding of nature would not have been realized.

Although, a large number of scientists and engineers are interested in the A&M data activities and even many of them have already participated in the activities as data producers or users, orchestrated and collaborative efforts to produce, collect, evaluate and liberalize these A&M data have not been materialized yet.

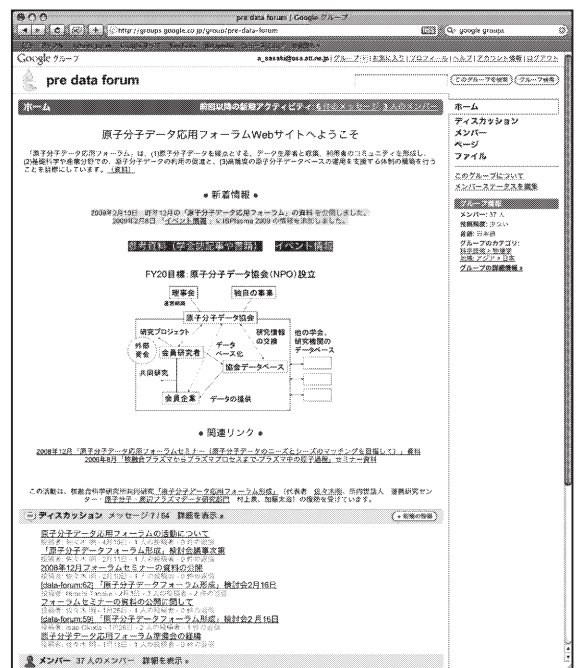
Therefore, we undertook this collaborative effort to establish the forum as a platform connecting between A&M data producers and data users as well as among data producers and users to integrate independent and isolated effort of data production and storage so that more efficient and complete data production and transmission could be possible.

In the present research project, on 17 and 18-Dec-2008, we had a seminar titled "Looking for matching between needs and seeds of the A&M data" at NIFS. A part of the meeting was cosponsored by the technical committee for A&M data research in the plasma science of the Japan Society of Plasma Science and Nuclear Fusion Research. We had 20 speakers and approximately 40 participants in 5 sessions covering major area of the application of A&M data, the plasma processing, atmospheric environment and light source technologies, atomic energy, and plasma wall interaction for the fusion research. Needs of A&M data are discussed by participants from industrial companies including modeling tool developers, and data seeds are discussed by professionals of atomic and molecular physics

from universities. We also had discussions on the establishment of the A&M data application forum as NPO (Non Profit Organization).

We had another detailed discussion in the working group meeting on 16-Feb-2009. We have agreed that the initial activity of the forum should be development of a human network for information exchange between data producers and data users. If both data producers and users can find an appropriate partner by themselves immediately, it will be helpful to obtain required A&M data and to accelerate the development a simulation model for analysis and optimization of the experiment. Such an activity will be complementary to the present data center activities, which had been carried out in the NIFS, JAEA and other institutions, by the support the fusion community. We have also agreed to have annual seminar, as well as to have a web site and mailing list, as shown in fig.1. We see the web-based mailing list is convenient for the information exchange, because it can archive discussions and provide useful link to the participants to access not only A&M data, but scientific results from a large number of members from a variety of research fields each other. By July 2009, we have 35 registered members from universities as well as private companies.

We also had discussions on the juridical requirements to sustain the activity. We write the draft of the articles of an association and annual project plan of the NPO, after discussions at the meetings as well as using the mailing list. We are planning to have a general meeting by the core members of the forum, and submit the application for certification to the Cabinet Office, Government of Japan, to establish the NPO by the end of the fiscal year of 2009.



(fig.1) Top page of the web site of the A&M data forum.