

SEU (Space Environment Utilization) WG activities

Proposed Outline

1. The scope /objectives of Space Environment utilization WG activities

Various kinds of outcomes from International Space Station (ISS) have been reported by the ISS Partner Space Agencies. ISS utilization is not only for space development, but involves every field of human activities including science, technology, education and culture. The purpose of this Working Group is to develop ways of sharing these values of the ISS with Asian countries through the cooperation on ISS utilization.

The assembly of the entire ISS had been completed and the Japanese Experiment Module “Kibo” of ISS is now fully operational. Some new capabilities such as fish experiment facility and small satellite deployment system are being added to Kibo Module. The space environment utilization activities are evolved continuously and further cooperation among Asia-Pacific countries is becoming increasingly important.

Kibo is open for collaboration among Asian countries and actually several collaborative activities have started. A series of protein crystallization experiments which have been conducted by Malaysia (ANGKASA) and Japan (JAXA) since 2009 is a good example of the collaborations. A joint conceptual study between Korea (KARI) and Japan (JAXA) for new experimental equipment and a feasibility study between Indonesia (LAPAN) and Japan (JAXA) are in good progress. It is expected that such activities will expand through regional cooperation in the APRSAF.

In order to create these collaborations in ISS/Kibo utilization among Asian countries, SEUWG decided to launch a new initiative at the last session of APRSAF meeting. Various kinds of outreach and promotion activities to gain the basic experience required for implementing space environment utilization are being done in this initiative. The name of the initiative is “Kibo-ABC”, Asian Beneficial Collaboration through Kibo utilization. The activities in this initiative such as the space seed project, scientific demonstration for students on ISS/Kibo, and small drop tower experiment

Appendix A

seminars in Asia will be reported by participating countries in the Kibo-ABC to the SEUWG.

Another good promotion activity is micro-gravity experiment through parabolic air flight in Japan. It started in 2006 and has been providing opportunities for Asian students to experience microgravity experiments. These opportunities not only help them to learn about microgravity science but also motivate them to develop their own scientific capabilities. The seventh series of parabolic flights is scheduled in December, 2012.

In this WG, we will discuss how we can promote and improve these activities and how we can enhance its effectiveness, etc.

2. The results of Space Environment Utilization WG activities in APRSAF-18

See the attached APRSAF-18 conclusion and recommendations.

3. The Draft Agenda

- 1) Status report on the APRSAF-18 recommendations and actions.
- 2) Status report related to ISS program
- 3) Status report of WG activities
 - a) Protein Crystal Growth Experiment
 - b) Joint Conceptual Study between KARI and JAXA
 - c) Feasibility Study between LAPAN and JAXA
 - d) Results of “Space Seed for Asian Future 2010”
 - e) Status of Student Parabolic Flight Experiment
 - f) lesson learned
- 4) Status report of Kibo-ABC initiative activities
- 5) Others