

APRSAF-14 SEU WG

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Summary of Space Environment Utilization Working Group (SEU-WG)

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SEU WG Presentations (1/5)

- At APRSAF-14, previous “ISS Working Group” changed the name to “SEU Working Group”, that’s expanding the scope.
- Attended by 19 participants from 10 organizations of 8 countries.
 - All participants made constructive remarks to expand the scope of SEU WG.
 - 10 presentations from 7 countries on their activities and achievements.
- Japan (JAXA) reported;
 - The result and activities after the APRSAF-13.
 - ISS/JEM Program status
 - JEM “KIBO” will become operational in mid 2008.
 - Joint feasibility study status of ISS/JEM utilization
 - Feasibility study of small experiment candidates is on going.
 - Students Parabolic Flight Experiment.
 - Past achievements and future plans.

SEU WG Presentations (2/5)

- Vietnam (VAST) reported;
 - Activities regarding to JEM feasibility study.
 - VAST appointed STI will be the coordinator regarding JEM activities.
 - Coordinating with inside and outside of VAST for future research.
 - VAST will coordinate to establish the feasibility study agreement with JAXA.

- Vietnam (Hanoi University of Science) reported;
 - Proposed 4 experiments as candidates for KIBO.
 - “Observation of Distribution and Effect of Ultrasound on the Vegetable Oil/Water System in Micro-Gravity Conditions and Consequences ”
 - “Surface Phenomena - Surface Tension Change in Micro-Gravity Conditions and Consequences”
 - “Experiments under Microgravity Conditions or Effects of Gravity on Living Systems/Processes”
 - “Magnetic Fluid Behaviors under Micro-Gravity”

SEU WG Presentations (3/5)

- Thailand (NSTDA) reported;
 - Students parabolic flight experiment
 - 1st experiment last year, great response from Thai people.
 - 2nd experiment is being prepared for the flight in December.
 - NSTDA would like to find the way to continue this program.
 - ISS utilization project feasibility study.
 - Status of preparatory experiment in one of the candidate research, "Rice experiment".
 - Preparing infrastructure in Thailand.

- Malaysia (ANGKASA) reported;
 - Students parabolic flight experiment
 - 3 experiments were short-listed and 1 experiment will be selected.
 - 1st experiment is being prepared for the flight in December.
 - Crew PADLES cooperation with JAXA
 - Malaysian astronaut kept Crew PADLES during the flight to ISS this October and Crew PADLES will be analyzed in JAXA.
 - Malaysian delegation will visit JAXA to coordinate further cooperation next week.

SEU WG Presentations (4/5)

- Korea (MOST) reported;
 - Preparation status of Korean astronaut's visit to ISS
 - Korean astronaut will visit to ISS next April.
 - Will execute 14 mission programs during the flight.
 - Korea-Japan Cooperation
 - Space flight on April 2008 by Korean Astronaut
 - Co-Experiments of PADLES & HDTV made by JAXA
 - After co-experiments of PADLES & HDTV
 - 1st Step : Feasibility study with JAXA for JEM utilization : 2007-2008
 - 2nd Step : Development of equipments : 2008 ~ 2010
 - 3rd Step : Space experiments on orbit : After 2010
- Indonesia (LAPAN) activities (reported by JAXA);
 - External payload utilization
 - Internal payload utilization
 - Started feasibility study with JAXA this September about "The effect of a space environment on the expression of fruit ripening associated genes" from SITH-ITB.
 - ISS related educational activities

SEU WG Presentations (5/5)

- India (ISRO) reported;
 - Space Recovery Experiment capsule (SRE) -1 Flight experience; A cost effective microgravity platform.
 - Both of two micro-gravity experiments, IHF and Bioreactor, performed successfully and yielded expected results.
 - SRE-2 slated for launch by Mid of 2009.
 - SRE achieved its goal as a technology demonstrator.
 - Proposed opportunities for international cooperation
 - Qualified platform for micro-g experiments is available on SRE-2.
 - Isothermal heating furnace for material science experiments in microgravity.
 - SRE validated an orbital platform or free flyer for effectively conducting micro-g experiments.
 - IHF can be used for a variety of micro-g experiments

Cooperation on JEM utilization Opportunity

- JEM utilization feasibility study progresses steadily;
 - Indonesia; LAPAN will continue feasibility study steadily.
 - Thailand; NSTDA will continue the effort to prepare the infrastructure and start feasibility study as soon as possible.
 - Vietnam; VAST and HUS will further develop candidate experiments and select the feasibility study experiment.
- The new participants for small experiments in JEM; to contact JAXA to coordinate potential experiment candidate for feasibility study by March, 2008.

Possible Cooperation on SRE-2 project

- ISRO proposed possible cooperation on Space Recovery Experiment Capsule (SRE) -2;
 - Immediate opportunity available for micro-g experiment on a qualified platform by mid of 2009.
 - Prospective participants are requested to contact ISRO at earliest.

Common Understandings

- Participants recognized that:
 - JEM utilization feasibility study progresses steadily;
 - new cooperation among Asian countries are being generated;
 - the space environment utilization experiments are beneficial for every Asia-Pacific country.
- All participants appreciated to expand the scope of this WG to overall the Space Environment Utilization in Asia-Pacific countries.
- Considering the students parabolic flight experiment program aims to lead to small experiments in JEM utilization, new applicant countries will be given priority to join.

Action Items

- Qualified platform for micro-g experiments is available on SRE-2 in mid of 2009. Prospective participants for the experiments on SRE-2, to contact ISRO at earliest.
- The new participants for small experiments in JEM, to contact JAXA to coordinate potential experiment candidate for feasibility study by March, 2008.
- JAXA, to distribute the schedule of Student Parabolic Flight Experiment next year by the end of January, 2008.

Recommendation from SEU Working Group

- To encourage the Space Environment Utilization Working Group to further share/update information in the field of space environment utilization among Asia-Pacific countries.
- To encourage to realize the cooperation on space experiments following the current feasibility studies of JEM utilization.
- To encourage future cooperation on micro-g platform on board Space Recovery Experiment capsule (SRE) of ISRO among Asia-Pacific countries.