

JAXA ISS Operations Achievements & Challenges

at
**Space Ops 2010
Conference**
in
April 28, 2010

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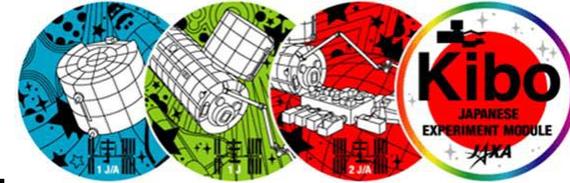
The Latest Status



- **Japanese Experiment Module (JEM) “Kibo” system in “Full Configuration” in March 2010**
- **H-II Transfer Vehicle(HTV)1/H-IIB flight launched on time September 2009, docked to ISS for 45 days**
- **Utilization ongoing as planned**
- **Organization transformed in April 1, 2010**
 - ✓ **Project Teams to Ops/Engineering Center (JEM)**
 - ✓ **New office established for cargo return capability**
- **ISS Operations/Utilization beyond 2016 under discussion at policy level**



1st JEM Assembly Mission



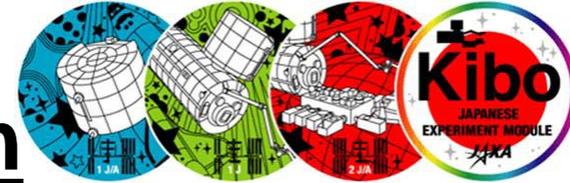
STS-123/1JA in March 2008

- ✓ **JLP temporarily installed on Node 2**
 - 6 system racks and 2 P/L racks carried
 - limited telemetry monitored at Tsukuba
- ✓ **Challenges**
 - Passive Thermal Control/Shell heater
 - Thermal clock overcome by FCT with support and Engineering team

J-FCT trained during stage



2nd JEM Assembly Mission



STS-124/1J in June 2008

- ✓ **JPM installed at Node 2 port**
 - 4 system racks (B-string) in JPM
 - 8 racks transferred from JLP
 - JLP relocated on JPM
 - Control and monitoring at Tsukuba
- ✓ **Challenges**
 - Interference of MLI on ACBM for JLP
 - MTL jumper fluid not fully charged
 - THC shutdown (mist at CHX outlet)



3rd JEM Assembly Mission



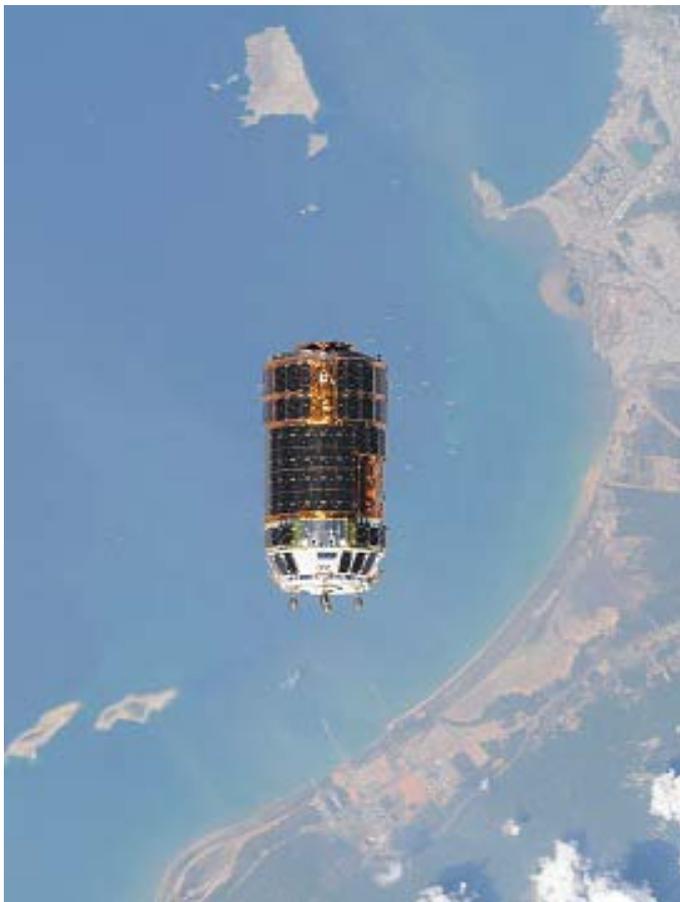
STS-127/2JA in July 2009

- ✓ **JEF installed on port of JPM**
 - 2 payloads & ICS carried on JLE
 - Object handling by JRMS

- ✓ **Challenges**
 - Micro switches in mechanisms (EFBM, EFU, SLM)
 - Heater failure for MAXI on JLE



HTV Maiden Flight Mission



HTV1 mission in September – November 2009

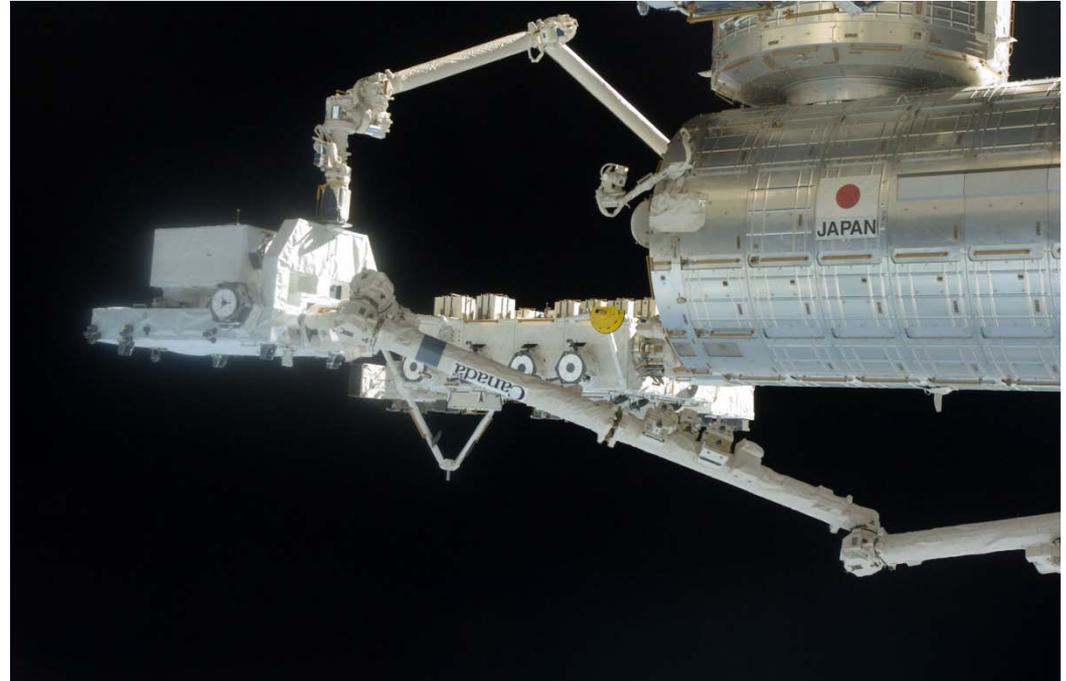
- ✓ R-bar approach demonstrated
- ✓ Captured and berthed by SSRMS
 - Two external payloads carried on EP
 - Hand-over of EP from SSRMS to JRMS
- ✓ Atmos. re-entry over South Pacific
- ✓ Challenges
 - GPS data anomaly
 - RCS thruster high temperature
 - Longer berthed duration



Initial Operation (Robotics)

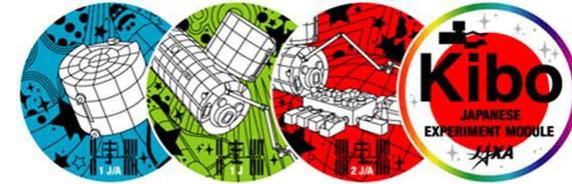


SMILES



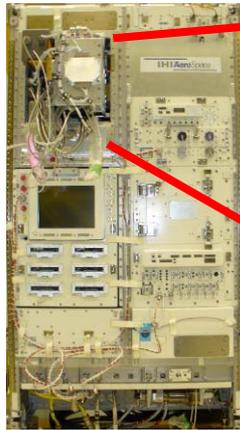
Handover between SSRMS and JRMS

HREP (Hyperspectral Imager for the Coastal Ocean & Remote Atmospheric & Ionospheric Detection System)

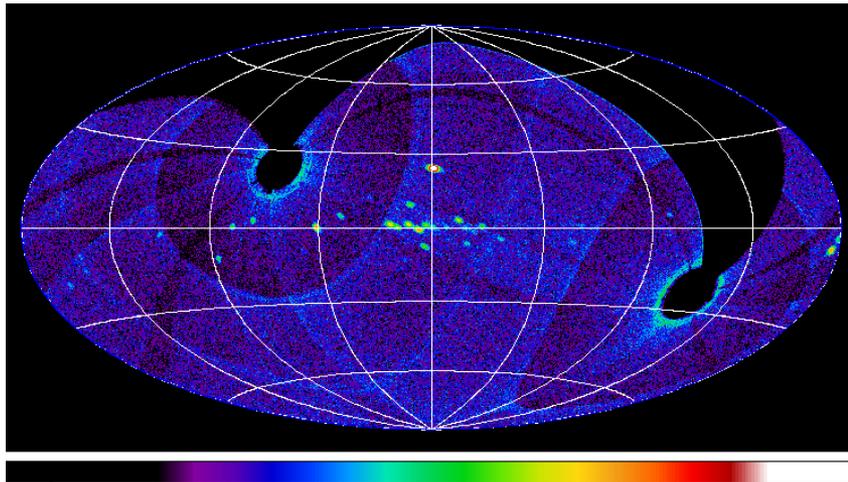
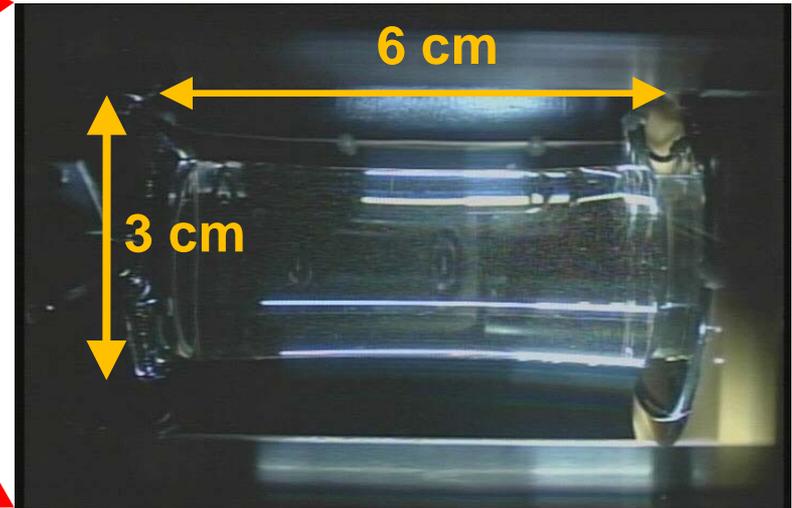


Initial Utilization

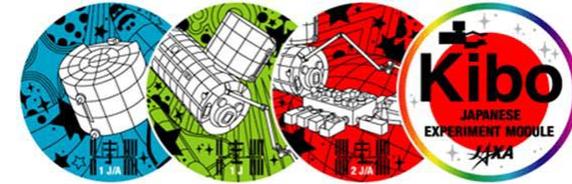
Ryutai
Rack



Max liquid cylinder
(Sept. 2008)



The First Light of MAXI (Monitor
of All-Sky X-Ray Image)



Initial Operations



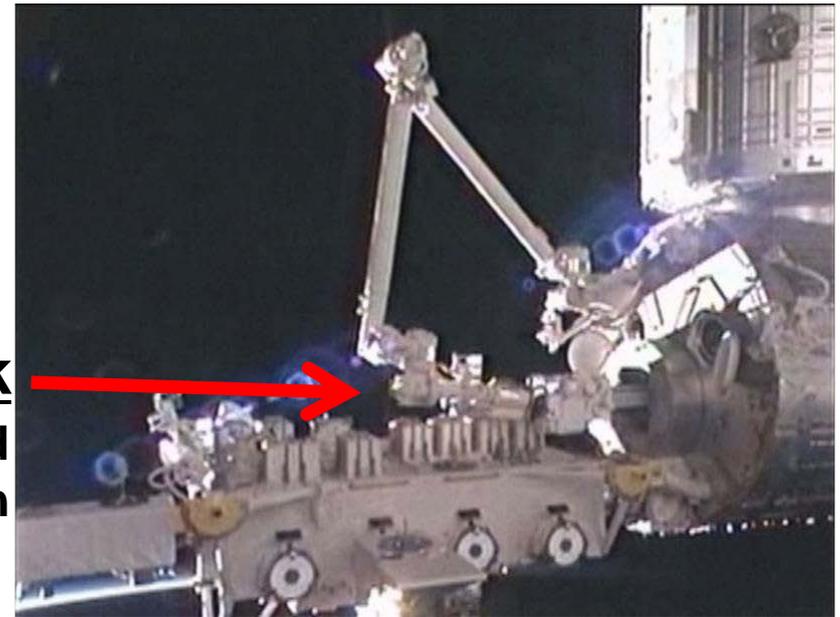
ISS020E025712

Inter-Orbit Comm. System

Checkout completed in Jan. 2010
In service in Feb. 2010

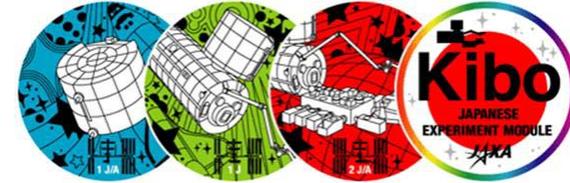
Small Fine Arm & Airlock

SFA carried on HTV, assembled inside JEM, transferred through Airlock, attached to JRMS, and stowed on JEF

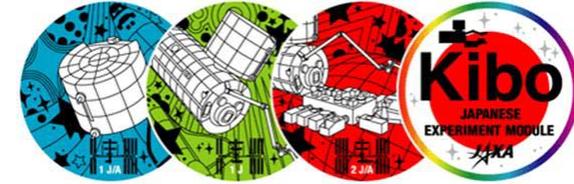




O & U Team Formation



- **JEM Operations Team**
(Ops Contract through 2015 renewed in April 2010)
 - Operations Management Team
 - Flight Control Team (only J-FDs provided by JAXA)
 - Payload Control Team
 - Training Team
- **JEM Engineering Team**
 - Count of system AR recently outnumbered by that of payload
- **Ground Facility Team**
- **HTV Project Team**
 - Flight control team lead by JAXA
 - Prime contract for HTV2 manufacturing
 - Procurement of H-IIB launch service



Challenge for Future

- **Ops Team to continuously entertain various utilization activities in an effective manner with increasing efficiency with lower infrastructural running cost.**
- **Engineering Team to continue to acquire engineering knowledge in order to lay the foundations of next projects**
- **HTV, maintaining stable transportation service, to evolve into a variety of new spacecrafts.**