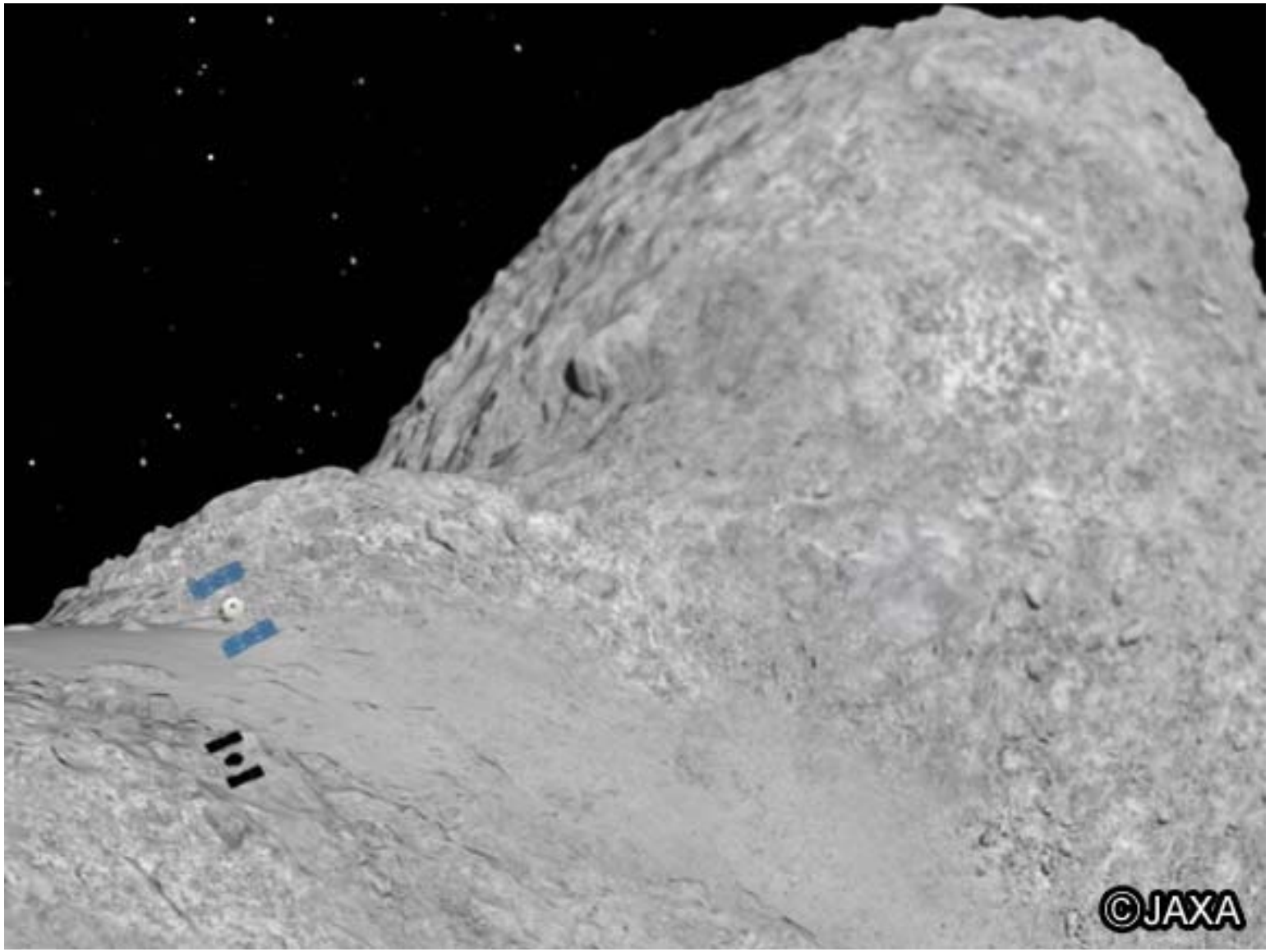
Hayabusa Update

Mike Zolensky

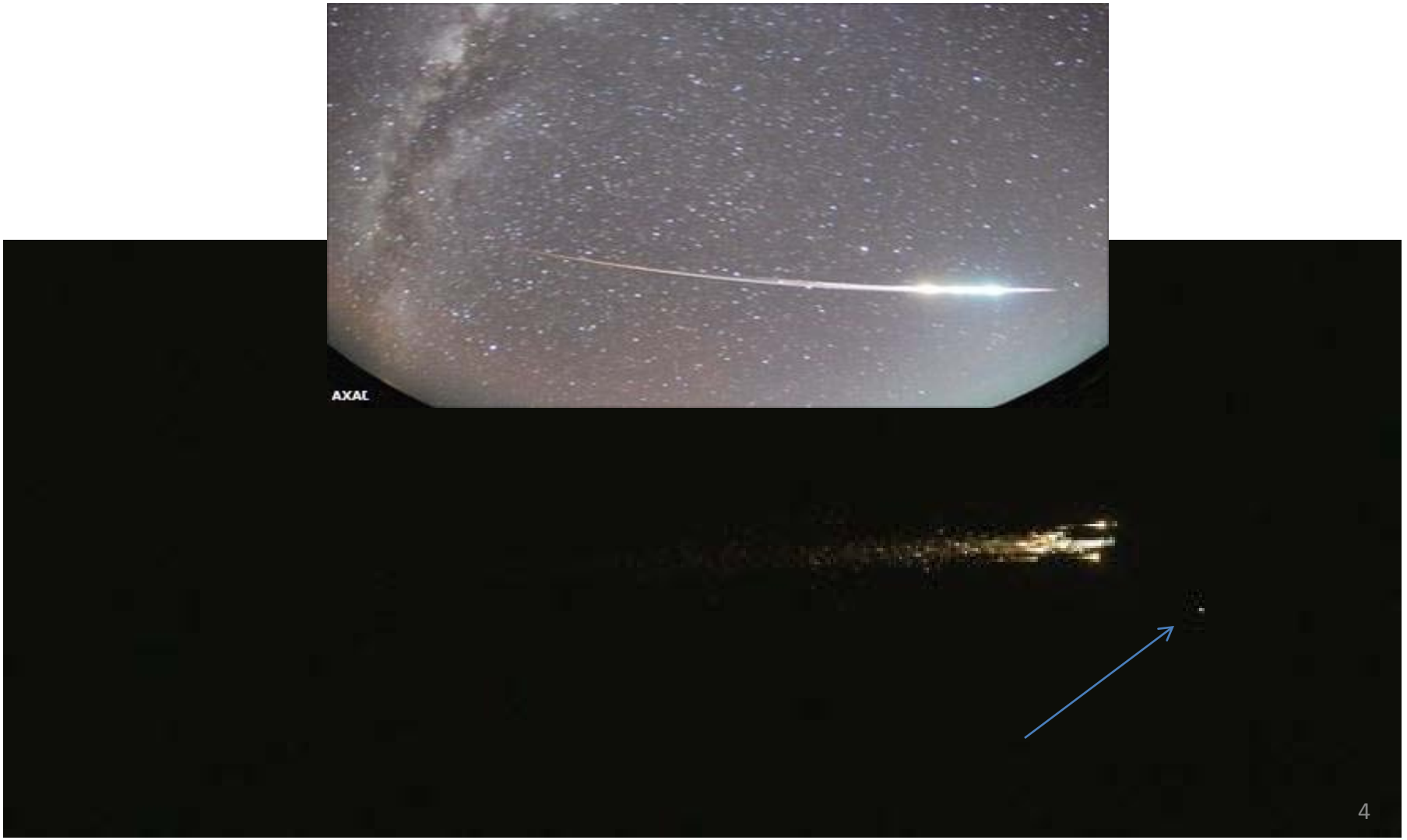
January 2011

Itokawa




Map
Darwin
Northern Territory
Queensland
Australia
Western Australia
Brisbane
South Australia
Perth
New South Wales
Sydney
Adelaide
Canberra
ACT
Victoria
Melbourne
Tasmania
Hobart
search the map
Search

Hayabusa re-entry
June 13, ~midnight



Aerial view of the landing site of the Hayabusa Instrument Package

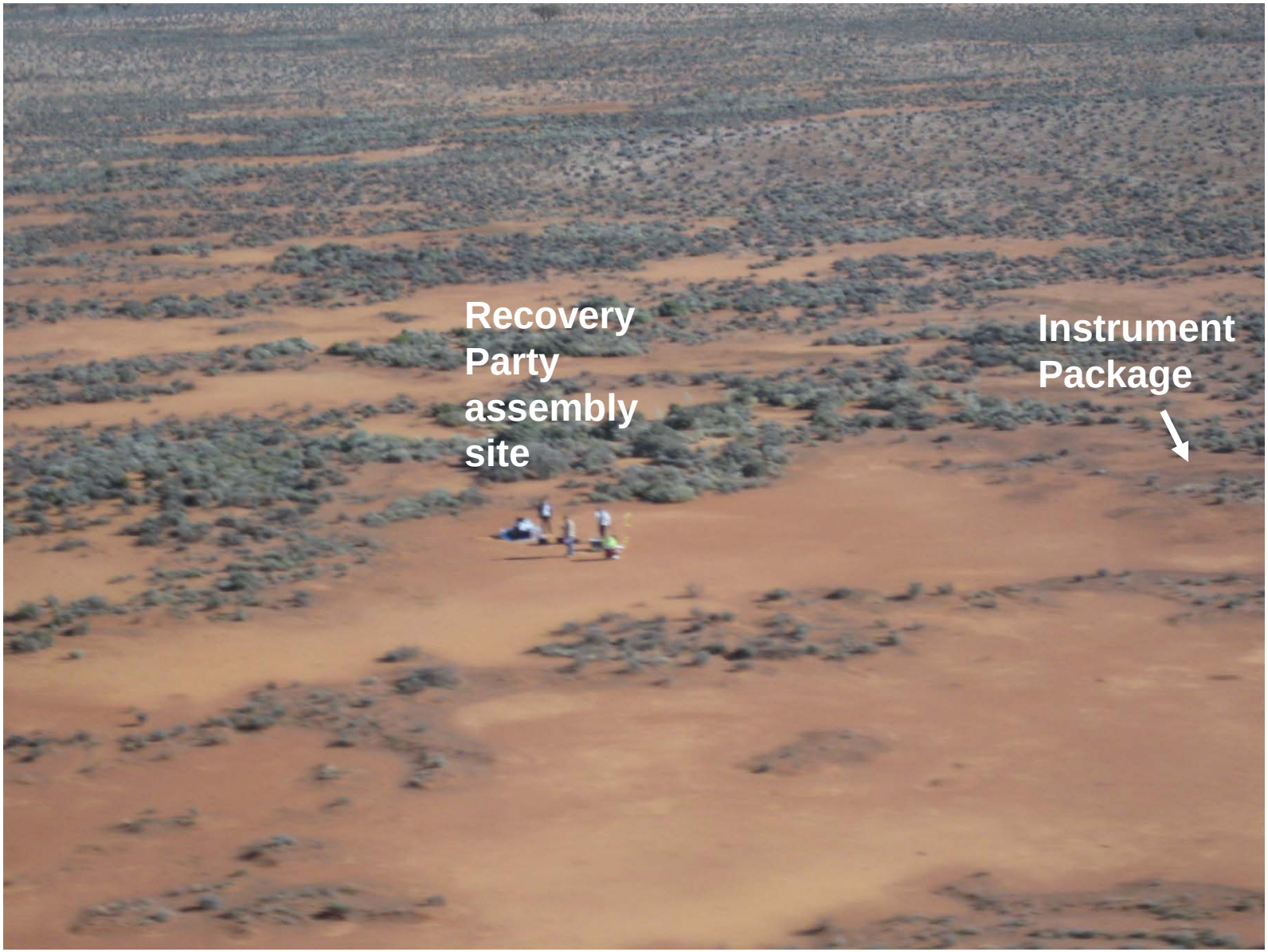


Photo by Mike Zolensky, NASA JSC

Hayabusa Instrument Package as found – it apparently landed and turned over as the parachute caught against a bush

Photo by Mike Zolensky, NASA JSC

Sample cabinet in Hayabusa Curation Lab. Blue arrow indicates vacuum chamber, red arrow indicates N2-flooded chamber

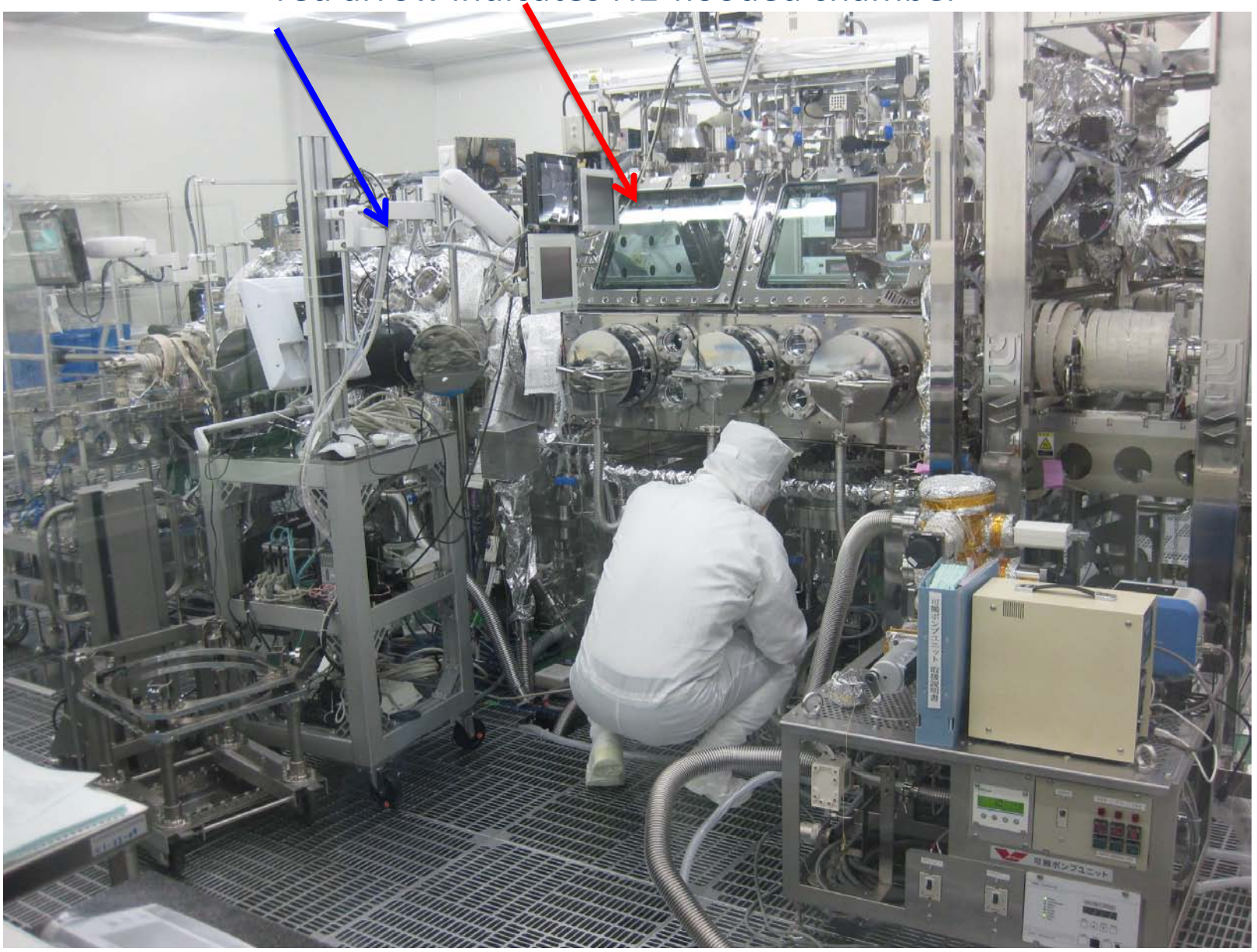
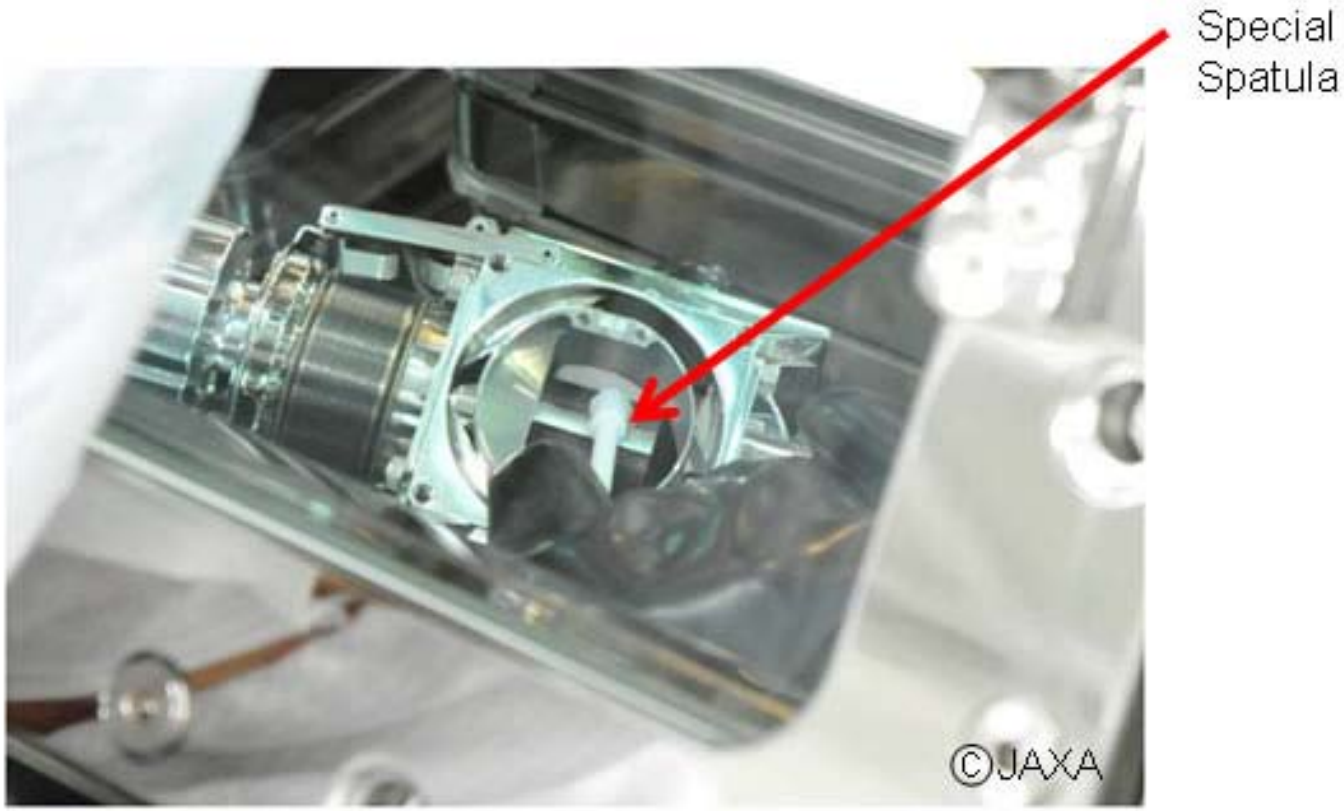


Photo by Mike Zolensky (taken in 2009)

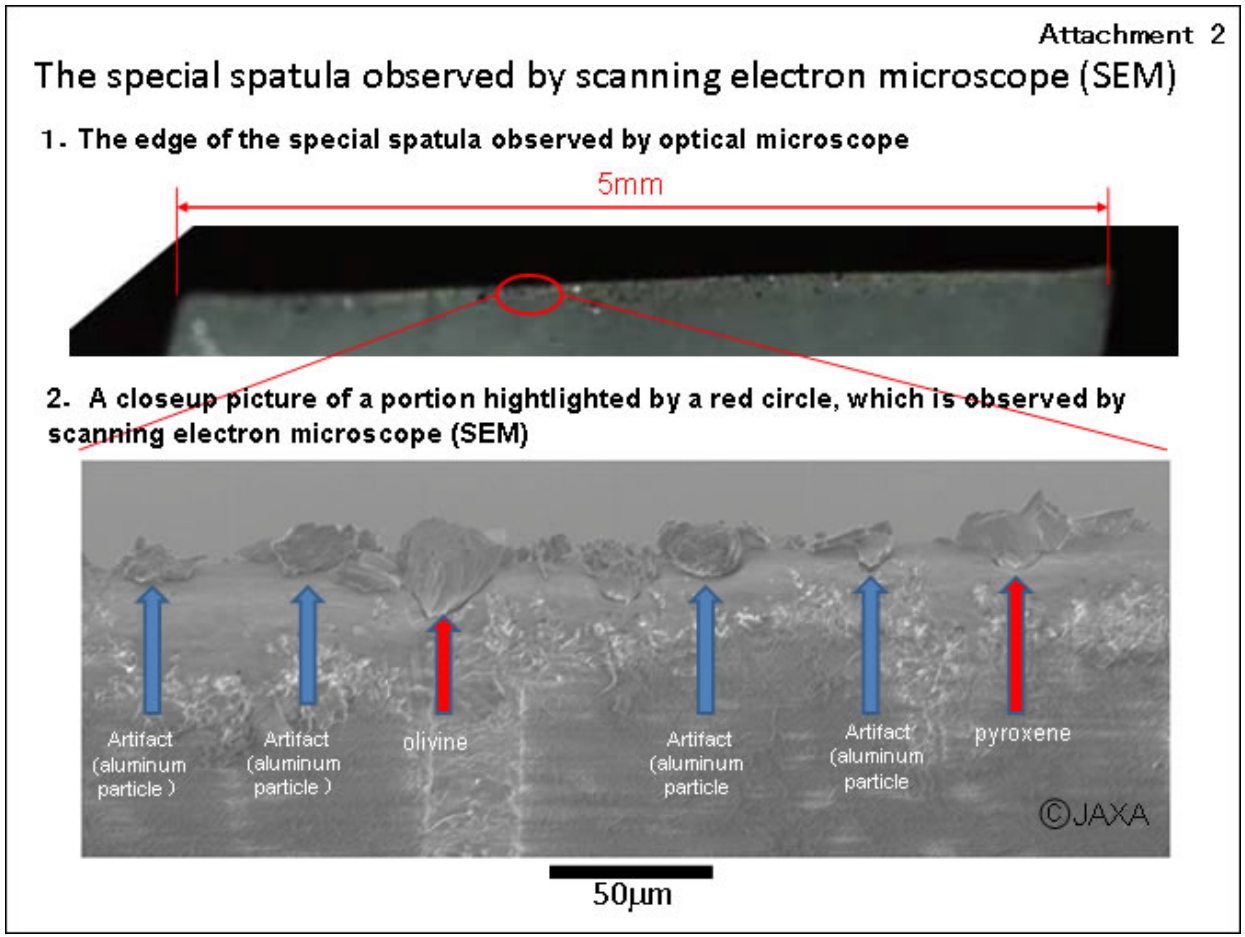
Attachment 3

A picture of the scraping out of "Sample Catcher A " by the special spatula



Itokawa samples being examined by low-voltage SEM

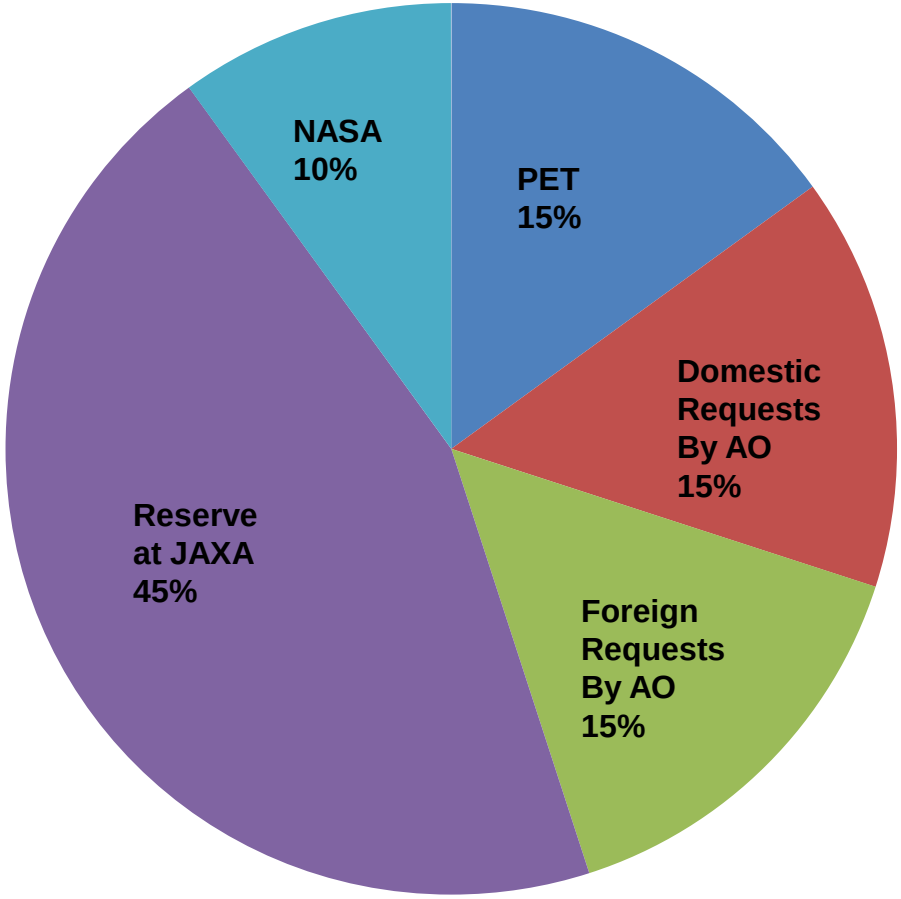
Itokawa samples are now receiving preliminary characterization



The initial results will be presented at LPSC!

PET is occurring exclusively in Japan, with 3 foreign investigators: Scott Sandford, Trevor Ireland and Mike Z

Upcoming Hayabusa Sample Division by mass



Sample Transfer

- NASA's share of the sample will be transferred to JSC in Fall-Winter of 2011, in two trips.
- Mike Z will hand-carry the samples via a commercial plane
- We have begun work on sample transfer logistics

The Hayabusa sample at JSC

- NASA's share should be >1000 loose grains, <150µm in diameter, but most <10µm in diameter
- In terms of planning for curation processing, these are similar to IDPs (Cosmic Dust) in most aspects
  - We have 30 years of experience in handling such grains
- For this reason we will be handling the Hayabusa samples in the Cosmic Dust lab

Sample Storage and Handling Cabinet

- We plan to house and partly handle the Hayabusa samples in a single, compartmentalized nitrogen-flooded stainless steel and glass glove cabinet

- The cabinet will be partitioned with a sample storage side and a sample handling side

- The Hayabusa cabinet will reside in the Cosmic Dust anteroom, which will be reorganized to permit this

Cosmic Dust Lab

The Hayabusa Cabinet will replace this flow bench

Sample Catalog and Availability

- We will perform low-voltage SEM/EDX characterization of a subset of the curated Itokawa grains, and assemble a sample Catalog which will be linked with JAXA's Catalog
  - These grains will not be C-coated, but will receive some contamination during the characterization process
- The remainder of the curated grains will be undisturbed (uncharacterized), to prevent contamination
- NASA's Hayabusa samples will be available for allocation by January 2012
- We will announce this plan at LPSC, though the JSC Astromaterials website, and via the LPI email distribution system

Curation cont.

- Contingency storage of the samples at White Sands might not be necessary, given that the Japanese are already doing this

Budget

- The funding for Hayabusa Curation will have to come from the overall Curation Budget

Hayabusa PET/Curation Timeline