



New Frontiers Program

Astromaterials Curation

New Frontiers Returned Samples

- Three of eight potential New Frontiers missions are sample returns, each with different curation requirements
- South Pole Aitken Basin Sample Return (Moon)
- Comet Surface Sample Return
- Asteroid Sample Return





- NPD7100.10E Curation of Extraterrestrial Materials
 - Natural materials returned from extraterrestrial environments represent a **unique and limited resource** and an **important legacy for future generations**.
 - Derive **maximum scientific and technological information** from the samples through a **broad program of scientific and technical research**.
- SMD responsible for overall management
 - Budget and long-range planning
 - Decisions on research proposals and sample allocations
- JSC responsible for physical curation and security
 - Curation of all NASA astromaterials, including future missions
 - Documentation, preservations, preparation and distribution
 - Preserving the physical and environmental security in JSC Curation Labs
 - Developing and implementing detailed procedures on curation and security

Astromaterials Curation Facilities

- Five current collections are Apollo lunar samples, Antarctic meteorites, stratospheric dust, Genesis solar wind, Stardust comet & interplanetary
- Each has its own specialized cleanroom, classes 10-1000
- Highly skilled scientific staff available to help new missions



- Requirement 12

Proposals that include the return of extraterrestrial samples shall provide a **Sample Curation Plan**. See Appendix B, Section J.6.B, for details. Such investigations shall allocate **funding** for use of the **JSC Curatorial Facility** including all aspects of curation.

- Requirement 13

Proposals that include the return of extraterrestrial samples shall specify the terms and conditions of selection of a sample fraction no greater than 25% for transmission to the contributing country, if appropriate.

Sample Curation Plan

- Describe
 - The nature of samples expected to be returned
 - Methods to prevent contamination/degradation in collection and return
 - Environmental conditions in the curation facility
 - General procedures for documentation, subsampling, distribution
 - Preliminary examination of samples
- Required elements
 - Sample catalog produced within 6 months to allow broad distribution
 - At least 75% of the sample is preserved for future studies
 - No more than 25% distributed to non-US partners
 - Funding of curation for at least 2 years before to 2 years after sample return
 - Full funding of any required laboratory modifications



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Astromaterials Curator Contact Information

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