ICS 49.100
CCS V 13

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 44925-2024

Requirement for portioning and storage of returned lunar sample

月球采样样品分样和保存要求

Issued on: December 31, 2024 **Implemented on: April 1, 2025**

Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed by the Chinese Academy of Sciences.

This document is under the jurisdiction of the National Technical Committee for Space Science and Its Applications Standardization (SAC/TC312).

This document was drafted by: National Astronomical Observatory of the Chinese Academy of Sciences, Beijing Space Vehicle General Design Department, Beijing Satellite Environment Engineering Institute, Institute of Geology and Geophysics, Chinese Academy of Sciences.

The main drafters of this document are: Zhang Guangliang, Liu Bin, Zhou Qin, Liu David, Li Chunlai, Zhang Hongbo, Liu Jianjun, Zuo Wei, Zheng Yanhong, Deng Xiangjin, Ding

Wenjing, Lü Shizeng, and Yang Wei.

Introduction

During the implementation of China's lunar exploration project, the National Astronomical Observatory of the Chinese Academy of Sciences was responsible for the construction of the lunar sample laboratory.

The work of ground sampling, preservation, preparation and research was carried out, forming a method for sampling and long-term preservation of lunar samples in a high-purity nitrogen environment on the ground. ability.

This document is compiled to review the laboratory storage, sampling, processing, and preparation of lunar samples that have been carried out in combination with the scientific goals of China's lunar exploration project.

The research contents of the lunar sample preparation and analysis are summarized, and a series of research projects on lunar sample sorting and analysis are formed by drawing on the experience of building lunar sample laboratories abroad.

The preservation methods and requirements are expected to be used for future lunar samples in China, as well as subsequent samples from asteroids, Mars and other extraterrestrial bodies.

The sampling and preservation process can be guided and referenced.

Lunar sampling sample separation and storage requirements

1 Scope

This document specifies the procedures and requirements for the classification, cataloguing, recording, sampling and preservation of lunar sampling samples (referred to as lunar samples).

This document is applicable to the design of lunar and other extraterrestrial sample laboratories, the development of extraterrestrial sample sorting and preservation equipment, and the Operations involved in the storage process, etc.

2 Normative references

GB/T 25915.1

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 lunar samplereturnedlunarsample

Lunar material collected on and below the lunar surface.

3.2

Facilities for storing, processing, preparing, analyzing, and testing lunar samples.

3.3 Sample portioning

The operation of dividing lunar samples into equal or unequal portions according to their intended use.

3.4 portioning device

Equipment for sorting lunar samples.

3.5 rock sample

Lunar samples with a particle size greater than or equal to 1 cm.

3.6 rock fragment

Lunar sample particles with particle sizes between 1mm and 1cm.

3.7 Powder sample soil sample

Lunar sample particles with a particle size less than or equal to 1 mm.