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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 33996-2017

Hierarchy and nomenclature of lunar exploration data products

月球探测数据产品分级与命名

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Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009. This standard is proposed by the Chinese Academy of Sciences. This standard is under the jurisdiction of the National Committee on Standardization of Space Science and Its Application (SAC/TC312). This standard is drafted by the National Astronomical Observatory of the Chinese Academy of Sciences. The main drafters of this standard. Liu Jianjun, Li Chunlai, Tan Xu, Ren Xin, Mu Lingli, Feng Jianqing, Zuo Wei. Lunar exploration data product classification and naming

1 Scope

China's national standard for how lunar exploration data products are classified and named. It specifies the hierarchy of the products and the rules for naming the data files, and it applies to the processing, management, sharing and application of lunar exploration data. The hierarchy is the substance of it. Data from a spacecraft instrument arrives as a raw telemetry stream and is worked upward through defined levels: unpacked and time-tagged, converted to physical units, corrected for instrument response, geometrically located on the body, and finally assembled into maps and mosaics. Every level is derived from the one below and can be regenerated from it, which is what allows a reprocessing years later to improve everything above. A file name that encodes the mission, the instrument, the level, the time and the target then tells a researcher what they are holding without opening it. That matters because lunar data outlives the mission that gathered it: China's Chang'e archives will be used by people who were not born when they were made.

This standard specifies the classification and data file naming rules for lunar exploration data products. This standard applies to the processing, management, sharing and application of lunar exploration data.

2 Terms and definitions

The following terms and definitions apply to this document.

2.1 Lunarexploration The material composition, surface features, physical field, internal structure, origin and evolution history of the moon are carried out by means of a lunar or lunar probe. Observation and sampling research activities. [

GB/T 30114.1-2013, Definitions 3.1.1]

2.2 Data product dataproduct The effective use of data analysis methods, from the massive of the original information to dig out the valuable information to the user to intuitive and effective performance Form, for the user application to provide digital information. [

GB/T 30114.1-2013, definition 4.32]

2.3 Source packet data packetdata The application-oriented protocol standard data unit generated by the detection instrument.

Note. Includes the packing protocol data unit and the bitstream protocol data unit.

2.4 Calibration Calibration Using the known information determined by the value, through the comparison, calibration, correction and other methods to determine the instrument measurement data and the actual physical quantity between the quantitative The process of the relationship.

Note. Common calibration includes radiation calibration, energy spectrum calibration, geometric scaling and so on. [

GB/T 30114.1-2013, definition 4.37]

2.5 Radiation correction radiometriccorrection Calibration of random radiation distortion or distortion of systems due to external factors, data acquisition and transmission systems. [

GB/T 14950-2009, definition 5.195]

2.6 Geometric positioning selenometricpositioning According to the star parameters of the detector, attitude parameters, sensor parameters, taking into account the moon autobiography, lunar shape, through the various coordinate system To determine the position of each sample point on the lunar surface of the sensor and other related geometric parameters.