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

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**Remote sensing satellite raw data record and interchange
format**

遥感卫星原始数据记录与交换格式

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard was proposed by the Chinese Academy of Sciences. This standard by the National Remote Sensing Technology Standardization Technical Committee (SAC/TC327) centralized. This standard was drafted. Institute of Remote Sensing and Digital Earth Institute. The main drafters of this standard. Yangren Zhong, Liu Jianbo, Zhang group, Shi Lu, Chen Bo, Tangmeng Hui, Wei Wang Wei and Lin Tao, Mali Chun.

In recent years, China and the aerospace remote sensing satellite ground application system technology has been rapid development, but due to different satellite owners, factory equipment development Different suppliers, different satellite ground system requirements and the introduction of foreign equipment and other various factors, resulting in raw ground systems for remote sensing satellite Appear very different, according to the recording and exchange of long this will be a long time to affect the development of remote sensing ground systems technology in China. By studying the environment and disaster monitoring and forecasting of small satellites and other satellites and more stars abroad series of satellites existing original data characteristics, test Into account the management of multiple remote sensing satellite receiving station raw data files, archived data with the original data interfaces for format conversion processing, as well as Conducive to the development of relevant new equipment and other technical factors, this standard while maintaining the original principles of remote sensing satellite downlink same data format based on the needle Clear provisions on data header information, additional information and file naming, etc., and satellite remote sensing data in the original data organization The agreement to ensure that the original satellite remote sensing data consistency in the recording, exchange and processing processes. Early results of this standard to have three of CBERS satellites and other data to achieve a standardized management, and other four foreign SPOT Satellite data processing to achieve the raw data archive format and has been verified to play in remote sensing satellite ground system construction and operation A role. The standard adaptation of some foreign and different series of remote sensing satellite downlink data to obtain the required data interface, to meet the multi-station data Records, data transmission and processing system data interface products, and data format standardization of new equipment and other aspects of demand. Satellite remote

sensing and recording raw data interchange format

1 Scope

China's national standard for the recording and interchange format of raw remote sensing satellite data. It specifies the organisation of the raw data as it is recorded, the header and ancillary information that must accompany it, and the file naming, so that raw satellite data stays consistent as it passes from a receiving station through archiving, interchange and processing. It exists because the ground segment grew faster than any agreement about formats did. Satellites came from different owners, ground equipment from different suppliers and to different requirements, and some of it was imported, so the raw data files produced by different receiving stations for different missions had almost nothing in common. That is tolerable while each mission is processed by the system that received it and intolerable as soon as data has to be exchanged, archived together, or reprocessed years later by software that was not written for it. The standard was developed by examining the raw data characteristics of Chinese missions including the environment and disaster monitoring small satellite constellation, together with foreign satellite series, and it is deliberately conservative: it keeps the downlink data itself unchanged and specifies what surrounds it - the header, the ancillary information, the organisation of the data within the file, and the file name. Its early results included standardised management of data from three CBERS satellites and archive-format conversion of data from four foreign SPOT satellites, which verified the format before it was published. That approach is why the standard is usable across missions whose downlink formats differ entirely. Issued on 3 September 2014 and in force since 1 February 2015.

This standard specifies the organizational structure of the original satellite remote sensing data recording and exchange of data file formats, data header information and supplementary information Related field contents, and file naming, to regulate China's remote sensing satellite raw data recording, processing and exchange of a Consistency. This standard applies to remote sensing satellite downlink data format standardization of data management in real-time recording, transmission and processing segment, and guide Formation and use of the data format of the data format. Remote sensing satellite ground system integration and equipment development, product standardization tube remote sensing satellite data Management and other aspects of system operation and maintenance can refer to use.

2 Terms and definitions

The following terms and definitions apply to this document.

2.1 Remote sensing satellite downlink data remotesensingsatelitedownlinkdata Remote sensing data or test data to a remote sensing satellite ground station transmitted, referred to downlink data.

Note. This data has a fixed frame format, different series of satellites frame format varies, the data bit stream in the form of transmission between the satellite and ground equipment.

2.2 Satellite remote sensing raw data remotesensingsateliterawdata After the remote sensing satellite ground station received a downlink data, the data file format is formed, referred to as raw data.

Note. This data has not been any production-level remote sensing data handling and processing.

2.3 Auxiliary information auxiliaryinformation Satellite remote sensing data reception, data for subsequent processing of the acquired additional information.

2.4 Header information dataheaderinformation Placed in orbit a satellite information data file starting position.

Note. This information describes the orbiting satellite data related information for exchanging and processing operations.

2.5 After the frame synchronization data frameddata Remote sensing satellite downlink data through the frame synchronization device or system process to achieve frame synchronization identification aligned with bytes of data.

Note. The order of the original data hold satellite downlink data.

2.6 Downstream channel downlinkchannel Remote sensing satellite remote sensing data or test data transmitted to the ground station occupied by the physical channel.

2.7 A track data apathdata Polar-orbiting satellites transit issued a continuous or intermittent data.