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

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Replacing GB/T 30114.1-2013

**Terminology for space science and applications - Part 1:
General**

空间科学及其应用术语 第1部分：基础通用

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1 Scope

GB/T 30114.1-2026 is the Chinese national standard covering the general vocabulary of space science - the disciplines and their objects, the missions and payloads, the observation and measurement terms and the data products. It replaces GB/T 30114.1-2013 and has been in force since 1 June 2026, under the Chinese Academy of Sciences. It was issued on 27 February 2026 and has been in force since 1 June 2026, replacing GB/T 30114.1-2013. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document defines the terminology for space science and its applications, as well as the terminology for space science experiments, explorations, and their applications. Space science mission engineering terminology. This document applies to the formulation of standards and the preparation of technical documents related to space science and its applications, as well as related scientific and technological exchanges and work. Application of the process.

4 Terminology for Space Science Experiments, Exploration, and Applications

4.1 space exploration The objective state, matter, natural phenomena and their changes in the Earth's atmosphere and outer space, including physical, astronomical, chemical and biological aspects. Scientific research activities based on observation.

Note. This has two meanings. one refers to indirect or direct detection in space; the other refers to the object of detection being space itself.

4.2 lunar exploration Using lunar orbiters or lunar landers, we can study the Moon's material composition, surface features, physical fields, internal structure, origin, and evolutionary history. Observation and sampling research activities.

4.3 planetary exploration Exploration and sampling of planets, dwarf planets, satellites, asteroids, and comets within the solar system (excluding Earth), as well as interplanetary space. Activity. Examples. Mars exploration, solar system planet exploration.

4.4 This study investigates the patterns of space environment change, analyzes the impact of space environment events on human activities and spaceflight on Earth, and predicts space environment changes. Scientific activities that identify changing trends and issue forecasts or warnings.

4.5 space probe A spacecraft consisting of fully functional scientific instruments and platforms, with clearly defined observation targets and research objectives. Examples. space probes, lunar probes, Mars probes, planetary and interplanetary probes, small celestial body probes, etc.

4.6 detector Instruments and devices designed using the principle of sensitivity to detect, collect, and record relevant physical, chemical, or biological information. Examples. mass spectrometers used for detecting neutral particles in the atmosphere; Geiger-Müller counters and proportional meters used for detecting high-energy particles such as electrons, protons, and heavy ions. Detectors and ionization chambers, miniature gas detectors, scintillation detectors, semiconductor detectors, Cherenkov detectors, and through-radiation detectors; Faraday cylinders, decelerating potential analyzers, ion traps, and probes for plasma detection; coil magnetometers, fluxgate magnetometers, proton precession magnetometers, and optically pumped magnetometers for direct magnetic field detection; and X-ray polarization detectors for indirect magnetic field detection.

4.7 Digital Earth Virtual Earth, based on multi-type, multi-resolution data and information, performs multi-dimensional comprehensive analysis, simulation, and display of the Earth on Earth's spatial coordinates. Simulated system.

4.8 The sealed cabin of a spacecraft is used to create a safe and suitable living and working environment for astronauts and to provide the necessary supplies for life activities. A complex system of obstacles.

Note. The environmental control and life support system consists of environmental control, life support, and emergency life support.

4.9 All the supplies necessary to sustain human life, such as oxygen, water, food, and pollutant purification materials, were brought into space from the ground, while human metabolism and... The technology involves not recycling household waste and using adsorbents for single-use purposes.

4.10 Based on physics and chemistry, most of the waste generated by people (carbon dioxide, water vapor, excrement, and domestic wastewater, etc.) is recycled and reused. This technology utilizes the regeneration and recycling of most pollutant adsorbents.

4.11 Based on ecological theory, and by comprehensively applying biological, physical, chemical, and engineering control technologies, food, oxygen, and water can be controlled in a closed system. The internal recycling system constructs a life support technology that resembles the Earth's environment, consisting of plants, animals, and microorganisms.

4.12 This method combines two approaches. utilizing biological food chains to regenerate and utilize water, oxygen, and food, and employing chemical and physical methods to regenerate water and oxygen. A comprehensive technical support system.

5 Engineering Terminology for Space Science Missions

5.1 payload Instruments and equipment systems mounted on space technology platforms to perform specific scientific experiments, scientific exploration, and applied research tasks.

5.2 A type of unpowered aerostat that flies at stratosphere altitude to conduct high-altitude scientific experiments or observations.

Note. Abbreviated as Science Balloon.

5.3 sounding rocket Suborbital launch vehicles carrying scientific instruments to conduct space exploration and scientific experiments.

5.4 Parabolic flight An aircraft that generates a low-gravity environment through special flight maneuvers (usually parabolic flight).

5.5 mission analysis To achieve the goal, the characteristics, features, technical difficulties, key issues, implementation methods, and work plan requirements of the work object are analyzed. Preliminary research and planning were conducted.

5.6 Experiment rack Under the constraints of flight platform resources, a unified mechanical, electrical, and thermal interface is available, suitable for supporting various experimental tasks within a specific discipline. Use technical facilities.

Note. International Standard Payload Rack (ISPR) on the International Space Station.

5.7 Software and hardware equipment for the operation management, process control, information collection and transmission of space science experimental facilities.

5.8 Experiment system A research system for achieving scientific goals, consisting of software and hardware experimental techniques, experimental subjects, and experimental operation management.

5.9 Experiment module A device that has complete independent functions and can be combined to complete a scientific experiment within an experimental cabinet scientific experiment system. Note

1. Its structural design adopts the form of standard load unit of experimental cabinet, standard drawer unit of experimental cabinet or standard load lock cabinet of experimental cabinet. Note

2. Experimental units with replaceable capabilities can be inserted into the experimental module.

5.10 Experiment unit Designed for specific space science experiments, these components

are installed inside experimental modules as standard plug-ins or units to intervene in and regulate the experimental research. Device components whose primary purpose is to depict an elephant.

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