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**NATIONAL STANDARD OF THE
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Replacing GB/T 32452-2015

Space terminology - Space environment

航天术语 空间环境

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Table of Contents

1.Scope	1
2 Normative References	1
3 General Basics	1
3.1 General Terminology	1
3.2 Gravitational Field	4
3.3 Space Magnetic Field and Space Electric Field	4
3.4 Space Electromagnetic Radiation	6
3.5 Neutral atmosphere	8
3.6 Ionosphere	10
3.7 Plasma	11
3.8 Particle radiation	13
3.9 Space Debris and Micrometeoroids	14
3.10 Spacecraft Contamination	15
3.11 Lunar and Deep Space Environment	16
4.Space Environment Model	17
4.1 Interplanetary Environment Model	17
4.2 Space Radiation Environment Model	17
4.3 Ionospheric Model	18
4.4 Middle and Upper Atmospheric Environment Model	18
4.5 Space Magnetic and Electric Field Environment Model	18
4.6 Space Debris and Meteoroid Models	19
5.Space Environment Forecast	19
5.1 General Terminology	19
5.2 Space Environment Forecast	20
5.3 Forecast Evaluation Indicators	20
6.Space Environment Effects	21
6.1 General Terminology	21
6.2 Vacuum Environment Effects	23
6.3 Temperature Environment Effects	24
6.4 Mechanical Effects	24
6.5 Microgravity effect	25
6.6 Magnetic Effect	25

6.7 Single-event effect	25
6.8 Total Ionization Dose Effect	27
6.9 Charge and Discharge Effects	28
6.10 Radiation biological effects	28
6.11 Atomic Oxygen Effect	29
6.12 Pollution Effects	29
6.13 Effect Protection	30
7 Space Environment Detection	30
7.1 General Terms	30
7.2 Electromagnetic Field Detection Methods	31
7.3 Energy Particle Detection Methods	32
7.4 Plasma Detection Methods	32
7.5 Neutral Atmosphere Detection Methods	33
7.6 Dust Detection Methods	34
7.7 Solar Exploration Methods	34
8. Ground simulation experiments of space environment and effects	35
8.1 General Terminology	35
8.2 Mechanical Environment Test	35
8.3 Thermal Environment Test	36
8.4 Space Electromagnetic Environment Test	37
8.5 Space Radiation Environment Test	37
8.6 Internal live test	37
8.7 Atomic Oxygen Environmental Test	37
8.8 Micrometeoroid and Space Debris Environment Experiment	38
8.9 Space Pollution Experiment	38
8.10 Moon Dust Test	38
40 Index	41

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. This document replaces GB/T 32452-2015 "Terminology for Spacecraft Space Environment". Compared with GB/T 32452-2015, the only changes are structural adjustments. Aside from editorial

changes, the main technical changes are as follows:

---Added sections on space (see 3.1.1), the solar activity cycle (see 3.1.2), the solar atmosphere (see 3.1.3), the photosphere (see 3.1.4), and the chromosphere (see 3.1.5). 3.1.5), the corona (see 3.1.6), solar radio bursts (see 3.1.8), solar active regions (see 3.1.10), coronal holes (see 3.1.11), and the corona High-speed flow through holes (see 3.1.12), solar X-ray flares (see 3.1.14), Earth-Sun space (see 3.1.20), heliosphere (see 3.1.22), Artificial environment (see 3.1.27), space vacuum environment (see 3.1.28), thermal radiation environment (see 3.1.30), spacecraft contamination environment (see 3.1.28). 3.1.34), induced environment (see 3.1.35), gravitational waves (see 3.2.5), geomagnetic pulsations (see 3.3.12), planetary magnetic fields (see 3.3.13), Ozone layer (see 3.5.6), gravitational waves (see 3.5.14), ionospheric irregularities (see 3.6.13), ionospheric irregularities (see...). 3.6.13), ionospheric inhomogeneities (see 3.6.13), magnetotail (see 3.7.12), magnetosheath (see 3.7.13), magnetic cloud (see 3.7.14), corona Matter ejection (see 3.7.15), thermal plasma (see 3.7.7), cold plasma (see 3.7.8), inner zone (see 3.8.2), outer zone (see 3.7.15). 3.8.3), artificial radiation belts (see 3.8.5), solar cosmic rays (see 3.8.12), electron enhancement events (see 3.8.14), galactic cosmology Rays (see 3.8.15), Phobos descent (see 3.8.17), energy particles (see 3.8.18), tiny space debris (see 3.9.2), space Debris flux (see 3.9.3), impact craters (see 3.11.3), lava pipes (see 3.11.4), planetary radiation belts (see 3.11.11), planetary large... Atmosphere (see 3.11.12), asteroids (see 3.11.13), planetary rings (see 3.11.15), planetary magnetospheres (see 3.11.16), small bodies (see 3.11.17) and 50 other terms and definitions;

---Changes have been made to Earth space (see 3.1.15, 3.1.3 in the.2015 version), near space (see 3.1.16, 3.1.2 in the.2015 version), and near Earth. Space (see 3.1.17, 3.1.4 in the.2015 edition), distant space (see 3.1.18, 3.1.5 in the.2015 edition), Earth-Moon space (see...) 3.1.19 (see 3.1.6 in the.2015 edition), deep space (see 3.1.21 in the.2015 edition of 3.1.7), planetary space (see 3.1.23 in the.2015 edition of 3.1.6). (See section 3.1.8 of the.2015 edition), celestial gravitational fields (see section 3.2.1 of the.2015 edition), and weightless environments (see section 3.2.2 of the.2015 edition). Earth's magnetosphere (see 3.3.8,

1 Scope

GB/T 32452-2025 is the Chinese national standard covering the vocabulary of the space

environment - the radiation belts and the solar particle events, the plasma and the charging it causes, the atomic oxygen and the micrometeoroids and debris, and the terms for the effects each has on a spacecraft. At 31,000 words. Issued on 5 October 2025, it has been in force since 5 October 2025, replacing GB/T 32452-2015.

This document defines the general fundamentals of space environment, space environment models, and space-related aspects involved in the field of spacecraft space environment and its effects. Terminology and definitions for environmental forecasting, space environment effects, space environment detection, and ground simulation experiments of space environment and effects. This document applies to the design, launch, and operation of spacecraft and space environment-related fields, including satellites, spacecraft, space stations, and space probes. This approach can also be adopted in fields related to the effects of the space environment, such as launch vehicles.

2 Normative references

This document has no normative references.

3.1 General Terminology

3.1.1 space Space The universe beyond Earth's atmosphere.

Note. Generally refers to an altitude of 100km or more above the Earth's surface.

3.1.2 Solar cycle Solar activity exhibits an approximately 11-year cycle in the variation of the relative number of sunspots. [Source: GB/T 30114.2-2014, 3.1]

3.1.3 Solar atmosphere The solar atmosphere is a general term for the outer atmosphere of the Sun, which is divided into the photosphere, chromosphere, transition zone, and corona from the inside out.

3.1.4 photosphere Located at the bottom layer of the sun's atmosphere, corresponding to the sun's surface as seen in the visible light band. [Source: GB/T 30114.2-2014, 2.1]

3.1.5 chromosphere Source regions where H α , helium lines, and calcium K and H lines are enhanced in the solar spectrum. [Source: GB/T 30114.2-2014, 2.2]

3.1.6 solar corona The outermost layer of the Sun's atmosphere extends from the surface of the chromosphere into interplanetary space, millions of kilometers away. [Source: GB/T 30114.2-2014, 2.3]