

ICS 49.140
CCS V 70



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

GB/T 34513-2026

Replacing GB/T 34513-2017

Space debris mitigation requirements

空间碎片减缓要求

(English Translation)

Issued on: July 2, 2026

Implemented on: November 1, 2026

Issued by: State Administration for Market Regulation

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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 34513-2017 "Requirements for Space Debris Mitigation". Compared with GB/T 34513-2017, except for structural adjustments and Aside from editorial changes, the main technical changes are as follows.

a) The description of the "Scope" has been changed (see Chapter 1, Chapter 1 of the 2017 edition);

b) Added terms such as "space object", "launch vehicle", "Earth orbit", "mission", "mission life extension", "disposal maneuver", "passivation", and "subjected".

"Controlled re-entry" and "Expected casualties per re-entry" (see 3.1, 3.3, 3.8, 3.11, 3.15, 3.17, 3.22, 3.24, 3.25);

c) The terminology "launch vehicle orbital stage", "protected area", "normal operation", "mission termination", "end of life", "disposal phase", and "orbital stage" have been changed.

Definitions of "lifespan", "probability of successful disposal", "disintegration", "reentry", and "reentry casualty risk" (see 3.4, 3.10, 3.12, 3.13, 3.14,...).

Versions 3.18, 3.19, 3.20, 3.21, 3.23, 3.25; and versions 3.9, 3.14, 3.11, 3.7, 3.6, 3.5, 3.12, 3.13, 3.2, 3.15 (2017 edition).

d) A "General Provisions" section has been added (see Chapter 5);

e) The textual descriptions and graphic representations of the Earth Space Protection Area have been revised, and the two-dimensional diagrams have been changed to three-dimensional diagrams (see 6.1 and Figure 1, 2017).

(5.1 and Figure 1 of the 2018 edition)

f) Increased limits on the number of debris generated during single-satellite and multiple-satellite launches (see 7.1.2.1);

g) Increased requirements for status monitoring and emergency response during spacecraft operation to prevent accidental disintegration (see 7.2.2.3 and 7.2.2.4);

h) Added passivation requirements for unsuccessful controlled reentry (see 7.2.2.5 and 7.2.2.6);

i) Added content regarding "collision leading to accidental disintegration" (see 7.2.3);

(See 7.3.1.3~7.3.1.6);

k) Added a provision regarding the starting time of the 25-year orbital life in the LEO region (see 7.3.3.1);

l) The option "Allow the disposal of LEO spacecraft above the LEO protected area" has been removed [see 2017 version 6.3.3.2].

m) The clause hierarchy for re-entry risk has been changed (see 7.4, 6.3.4 in the 2017 version).

(n) Increased requirements for pre-launch reentry safety risk assessment (see 7.4.2);

o) The value for acceptable number of casualties at reentry risk has been changed (see 7.4.3, 6.3.4.2 in the 2017 edition);

p) Added requirements for the development of space debris mitigation schemes (see 8.1), scheme content requirements (see 8.2), and scheme management requirements (see 8.3).

This document is modified to adopt ISO 24113:2023 "Space systems - requirements for space debris mitigation".

This document has undergone the following structural adjustments compared to ISO 24113:2023.

---A chapter on normative references has been added;

---The order of all terms has been adjusted;

---7.1.1 corresponds to 7.1.1.1 in ISO 24113:2023;

---7.1.2 corresponds to 7.1.1.2 and 7.1.1.3 of ISO 24113:2023;

---7.1.3 corresponds to 7.1.2 of ISO 24113:2023;

---7.4 corresponds to 7.3.4 of ISO 24113:2023;

---8.1 corresponds to 8.1 and 8.2.1 of ISO 24113:2023;

---8.2 corresponds to 8.2.2 of ISO 24113:2023;

---8.3 corresponds to 8.2.3 and 8.2.4 of ISO 24113:2023.

---Added normative reference to GB/T 45621-2025 (see Chapter 3) to adapt to my country's technical conditions;

---The headings of sections 7.1, 7.2, 7.3, and 7.4 have been changed to suit my country's technical conditions;

---The headings of sections 8.1, 8.2, and 8.3 have been changed to suit our country's technical conditions.

The following editorial changes have been made to this document.

---To align with existing standards, the standard's name has been changed to

"Requirements for Space Debris Mitigation";

---Informative references have been added to GB/T 32295, GB/T 38194, GB/T 43224, GB/T 40536, and GB/T 32308.

GB/T 45737, ISO 27875;

---Added "Incentives for Space Debris Mitigation" (see Appendix B).

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Aerospace Technology and Its Applications (SAC/TC425).

Introduction

Decommissioned and defunct spacecraft, debris resulting from disintegration or explosions caused by residual fuel, and micro-particles produced by the combustion of solid fuel.

Small metal oxide particles and particles eroded and detached from the material surface, as well as various waste products generated by space activities, etc.

The vast majority of space debris cannot fall to the Earth's surface or move away from Earth's orbit in the short term; instead, it tends to accumulate densely over a long period of time.

Operating in Earth's space orbit (especially the LEO and GEO orbital regions with the highest utilization), they occupy a large amount of space orbital resources.

High-speed space debris possesses immense energy; even a small impact from it can cause a fatal malfunction to a spacecraft in orbit.

It could disintegrate, generating more space debris and threatening the safety of the space station and astronauts in orbit.

To some extent, space debris is similar to the various types of waste generated in people's daily lives and work, impacting the atmosphere, rivers, soil, and oceans.

This has caused severe environmental pollution, endangering human health and survival. Similarly, space debris is man-made space junk, and its quantity...

The increasing quantity of space debris poses a serious threat to normal human space activities, and the threat of space debris is indiscriminate of nationality or object (potentially endangering...).

This concerns not only any country's spacecraft in orbit or ground personnel/facilities, but also the public safety and sustainable development of space for all humanity.

Limiting the generation of space debris, maintaining the normal order of the space