

ICS 49.140
CCS V 75



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

GB/T 42039-2022

**Space data and information transfer systems - Space packet
protocol**

Issued on: October 12, 2022

Implemented on: October 12, 2022

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

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foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Standardization Work Leads to Part 1. Structure and Drafting Rules of Standardization Documents"

drafted.

This document is modified and adopted ISO 22646.2005 "Space Data and Information Transmission System Spatial Package Protocol".

Compared with ISO 22646.2005, this document has many adjustments in structure, and the comparison list of structure number changes between the two documents

See Appendix A.

Compared with ISO 22646.2005, this document has many technical differences. In the outer margins of the clauses involved, the vertical

Straight single line (|) is marked. See Appendix B for a list of these technical differences and their reasons.

The following editorial changes have been made to this document.

--- Deleted the notes in Chapters 3 and 4 of ISO 22646.2005;

--- Added Appendix A (informative) "The structural changes of this document compared with ISO 22646.2005";

--- Added Appendix B (informative) "Technical differences between this document and ISO 22646.2005 and their reasons";

--- Changed Appendix B "References" of ISO 22646.2005, deleted B1~B5, and adjusted B6~B8 to the reference of this document

test papers;

--- Deleted Appendix C (informative) of ISO 22646.2005 "Changes in References 2 to 4".

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

1 Scope

This document specifies the business, data unit format, protocol process and management parameters of the space packet protocol of the space data and information transmission system

and so on.

This document applies to the data link of space data between spacecraft and the ground, between spacecraft and spacecraft, and between spacecraft internal equipment

Transmission in a space network composed of roads.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, dated citations

documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to this document.

GB/T 39355 Spatial Data and Information Transmission System Time Code Format (ISO 11104.2011, MOD)

GB/T 42041 Aerospace Terminology Spatial Data and Information Transmission

3 Terms and Definitions

The terms and definitions defined in GB/T 42041 and the following apply to this document.

3.1

delimited

Data is of known and finite length.

3.2

spacelink

A communication link between a spacecraft and the corresponding ground system or between two spacecraft.

3.3

spacepacket

Variable-length, delimited, byte-aligned packet data structure.

Note. It consists of packet main header and packet data field. is the protocol data unit of the space packet protocol.

3.4

octetstring

A variable-length, delimited, byte-aligned unit of data.

NOTE. The Space Packet Protocol is not concerned with its content and format.

4 Abbreviations

The following abbreviations apply to this document.