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PEOPLE'S REPUBLIC OF CHINA**

GB/T 39348-2020

**Space data and information transfer systems - TM
(telemetry)synchronization and channel coding**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard uses the redrafting method to modify and adopt ISO 22641.2012 "Space Data and Information Transmission System Telemetry Synchronization and Channel coding".

Compared with ISO 22641.2012, this standard has many structural adjustments. Appendix A lists this standard and ISO 22641.2012

The chapter number comparison list.

Compared with ISO 22641.2012, this standard has technical differences, and the clauses related to these differences have been

The set vertical single line (|) is marked, and a list of the corresponding technical differences and their reasons is given in Appendix B.

This standard also made the following editorial changes.

---Deleted part of the references to the principle definition document structure in Chapter 1 of ISO 22641.2012;

--- Changed Appendix A "Abbreviations" in ISO 22641.2012 to Chapter 4 of the main text;

--- Deleted the informative appendix B of ISO 22641.2012 "Security, space allocation numbers and patent factors";

---The informative appendix E "References" of ISO 22641.2012 is deleted.

This standard was proposed and managed by the National Aerospace Technology and Application Standardization Technical Committee (SAC/TC425).

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1 Scope

This standard specifies convolutional codes, RS codes, Turbo codes, and convolutional codes involved in telemetry synchronization and channel coding in spatial data and information transmission systems.

Technical requirements for LDPC codes, interleaving, and pseudo-randomization.

This standard applies to the interface design of air-to-ground links and channel coding between air-to-air links. Can be combined with GB/T 39351 or

Use with GB/T 39345.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this document.

For undated references, the latest version (including all amendments) applies to this document.

GB/T 2900.54 Electrotechnical terminology radio communication. transmitter, receiver, network and operation (GB/T 2900.54-2002, IEC 60050-713.1998, IDT)

GB/T 39345 Space Data and Information Transmission System Advanced On-orbit System Space Data Link Protocol (GB/T 39345-2020, ISO 22666.2016, MOD)

GB/T 39349 Spatial data and information transmission system remote synchronization and channel coding (GB/T 39349-2020, ISO 22642.2015, MOD)

GB/T 39351 Spatial Data and Information Transmission System Telemetry Spatial Data Link Protocol (GB/T 39351-2020, ISO 22645.2016, MOD)

3.1 Terms and definitions

The following terms and definitions defined in GB/T 2900.54 apply to this document.

3.1.1

symbol

The basic data unit for transformation and processing, and its specific meaning varies depending on the application.

- a) For standard convolutional codes, a symbol refers to a binary code point;
- b) For the RS code, the symbol refers to the element in the finite field $GF(2^J)$. At this time, each symbol is composed of J bits.