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

GB/T 32298-2015

Matching test requirements for spacecraft and launch vehicle

航天器与运载火箭匹配试验要求

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Table of Contents

- 1 Scope
- 2 Normative references
- 3 Terms and Definitions
- 4 General requirements

Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. The standard proposed by China Aerospace Science and Technology Corporation. This standard by the National Aerospace Technology and Application of Standardization Technical Committee (SAC/TC425) centralized. This standard was drafted. Beijing Aerospace System Engineering Institute. The main drafters of this standard. LIU Bing, Mu Yu, Zhang Yi Park, Wang Jinghua, Wang Haitao, PROJECTILES, Liu, Li love, He Wei, Xie Xuan.

Spacecraft and launch vehicle development process, the need for both sides of the interface and features to match the tests to verify spacecraft and launch vehicles Mechanical interface, electrical interface, electromagnetic compatibility characteristics and whether the coordination between the arrows match. Matching mechanical interface, electrical interface, electromagnetic compatibility characteristics Testing, spacecraft and launch vehicle is developed during routine testing of spacecraft and launch vehicles is a must attend the trial, This standard conducted a more detailed description. About vibration, modal noise, thermal environment interface test match should be based on the need to develop the spacecraft and launch vehicle, spacecraft analysis And rocket assembly is subjected vibration, modal, noise, thermal environmental conditions, namely the development of environmental conditions for testing of spacecraft and launch vehicles Indicators and carry out vibration respectively spacecraft and launch vehicles, modal noise, thermal environment tests, which are not the spacecraft and launch vehicle Products must also participate in the test. The standard for a detailed statement of the test match each spacecraft and launch vehicle carried out jointly, Does not involve vibration, modal test requirements match the noise, thermal environment interface. To ensure the mechanical interface, electrical interface, electromagnetic compatibility characteristics of correctness, avoid combination of rocket and spacecraft in flight by a Both interfaces and features that do not match the failure of development and testing tasks in aerospace engineering, the formation of spacecraft and launch vehicles match Test guidelines and requirements. On this basis, further summarized by the formation of this standard to guide spacecraft and launch vehicle test match Organization and implementation. The spacecraft and launch vehicle matching test requirements

1 Scope

China's national standard for the matching tests between a spacecraft and its launch vehicle - the campaign carried out before a launch to prove that the two vehicles, designed and built by different organisations, actually fit together mechanically, electrically and in their data and command interfaces. It specifies the general requirements for the matching test, the objects of the test, the technical state of the articles under test, the content of the test, and the analysis and summing up of the results, and it applies to the matching tests between a spacecraft and a launch vehicle. The interfaces it exists to verify are the ones that no single organisation owns: the mechanical interface at the payload adapter, with its fit, its alignment and its separation; the electrical interface, with the umbilical connections, the power and the grounding; the command and telemetry interface, with the separation signals and the data passed between the two vehicles; and the envelope inside the fairing, where the clearance to the payload has to be demonstrated rather than assumed. The standard sets what has to be established before the test is run - which articles are used, the electrical and structural models or the flight articles themselves, and what configuration they must be in - because a matching test carried out on an article that is not in the flight state proves less than it appears to. It then sets how the results are analysed, what constitutes a pass, how a discrepancy is dispositioned, and what the summary report must record so that the result is traceable at the launch site. The terminology follows the launch vehicle vocabulary of GB/T 32455. Issued on 31 December 2015 and in force since 1 July 2016.

This standard specifies the general requirements for the spacecraft and launch vehicles (hereinafter referred to as the control arrows) match test, the test object, the test state of the art, Test content, test result analysis and summary. This standard applies to Test match between the spacecraft and the launch vehicle.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document. GB/T 32455 rocket term

3 Terms and Definitions

GB/T 32455 and defined by the following terms and definitions apply to this document.

3.1 Arrow Test match is matchingtestforspacecraftandlaunchvehicle Verify that the interface between the spacecraft and launch vehicle correctness, coordination tests.

4 General requirements

4.1 Test Range Arrow is matching tests include. Mechanical interface matching test, the electrical interface matching and electromagnetic compatibility test, is docked at the launch site arrow test.

4.2 Test requirements for technical documentation Arrow matching device testing process generally requires the use of the technical documentation for the following.

- a) is state of the art Arrow test match should be consistent with the Interface Control Document spacecraft launch vehicle requirements;
- b) state of the art control arrows shall meet the requirements of their respective special technical conditions; in meeting the matching test of the validity of the premise, can involve Devices and components Bolt interface (system components) instead of the entire device, the entire arrow experiment, but its features and interfaces and models should be dedicated relationship skills State operation conditions required consistency;
- c) before the arrow matching test unit testing program should be prepared in accordance with this standard, and carry out control tests in accordance with the arrow matching test program and test processes.

4.3 test site, the environment and equipment requirements Arrow to control test match venue, the environment and equipment general requirements are as follows:

- a) test site, test environment should meet the emission simulator arrow assembly and flight status;
- b) The test area shall meet the filter arrow match test products transportation, handling and testing requirements;
- c) the test environment should meet the filter arrow on the temperature, humidity and cleanliness and other requirements;