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Terminology for manned spaceflight

载人航天术语

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4 Astronaut Terminology

4.1 astronaut system To select and train astronauts, and to provide support for their long-term healthy living, efficient work, emergency safety, and extravehicular activities in orbit. system.

4.2 astronaut; cosmonaut; taikonaut Personnel who pilot, manage, assemble, and maintain spacecraft or engage in scientific experiments, production, and processing activities during manned spaceflight.

4.3 astronaut candidate Personnel who have qualified to participate in astronaut training (4.11) but have not yet obtained astronaut qualifications.

4.4 Commander Commander and person in charge of the spaceflight crew (4.8).

Note. This role is usually filled by a space pilot (4.5).

4.5 pilot astronaut Astronauts selected from active-duty pilots and qualified through training (4.2). They are typically responsible for the operation and control of manned spacecraft (6.1).

4.6 Spaceflight Engineer Astronauts are selected and trained from researchers in aerospace-related fields (4.2). They are typically responsible for spacecraft and aerospace operations. (Experimental) operation and management of instruments and equipment or specific tasks.

4.7 payload specialist Astronauts are selected from researchers specializing in space station experiments or payload-related fields and who have passed the required training (4.2). Typically... Responsible for the management, operation, and maintenance of space application payloads (5.2), as well as conducting space science experiments and technological tests.

4.8 spaceflight crew A team consisting of several astronauts (4.2) is formed to carry out a manned spaceflight mission.

4.9 Astronaut selection The process of selecting prospective astronauts (4.3) and spaceflight crews (4.8) according to standards.

4.10 Spaceflight Crew Selection According to the standard, for a specific manned spaceflight mission, the spaceflight crew (4.8) and backup astronauts are selected from the astronauts (4.2). process.

4.11 Astronaut training In accordance with the requirements of manned spaceflight missions, astronauts (4.2) and prospective astronauts are trained in terms of ideology, physical condition, psychology, knowledge, and skills. (4.3) The process of conducting comprehensive and systematic training to enable them to perform manned spaceflight missions.

4.12 spacesuit In manned spaceflight activities, the sealed personal protective equipment and safeguards provided for astronauts (4.2) to ensure their life safety and work efficiency are protected. equipment.

Note. This includes intravehicular activity (IVA) suits (4.13), extravehicular activity (EVA) suits (4.14), and lunar suits (4.15).

5 Spatial Application Terminology

5.1 space utilization The general term for scientific experiments, scientific exploration, applied research and other activities carried out using space resources.

5.2 Space application payload Application payload Instruments and equipment systems mounted on spacecraft to perform specific scientific experiments, scientific exploration, and applied research missions.

Note. Based on the layout location, loads are divided into internal loads and external loads; based on the dependency relationship, loads are divided into independent loads and non-independent loads. [Source: GB/T 30114.1-2013, 4.1]

5.3 Intra-vehicular payload Space application payloads installed inside the structural shell of a spacecraft's sealed compartment (5.2).

5.4 Standard payload unit of experiment rack (SPU) Designed according to standard specifications and dimensions, the internal load (5.3) is fixedly installed inside the scientific experiment cabinet (5.11) using a back panel.

5.5 Standard drawer unit of experiment rack (SDU) The load (5.3) is designed according to standard specifications and dimensions and installed in the scientific experiment cabinet (5.11) using standard guide rails.

5.6 Integrated payload available inside and outside module A space application that simultaneously possesses both in-cabin and out-of-cabin installation components, and where both components belong to the same space application project (5.16) and are interconnected, should be considered as such. Use payload (5.2).

5.7 extra-vehicular payload Space application payloads that are installed on the outer

surface of the spacecraft's structural shell and are directly exposed to outer space (5.2).

5.8 Standard extra-vehicular payload Designed according to standard mechanical, electrical, information, and thermal interface requirements, external loads are supported via external load adapters and other interface technologies. (5.7).

5.9 Non-standard extra-vehicular payload External loads that do not have standard interface design (5.7).

5.10 payload health management Determine the current status of the space application payload (5.2) and perform fault identification, diagnosis, use, and maintenance of the application payload. A collective term for activities such as...

5.11 scientific experiment rack Under the resource support and constraints of spacecraft platforms, and designed according to prescribed mechanical, electrical, thermal, and pneumatic interfaces, it is used to support the development of certain disciplines. Technical facilities for different experimental tasks.

Note. It is usually divided into scientific experimental system and experimental support system. [Source: GB/T 30114.1-2013, 4.7, with modifications]

5.12 Exposure experimental platform A platform installed on the outer surface of spacecraft structures such as space stations to support experiments on externally exposed payloads.

6 Spacecraft Terminology

6.1 manned spacecraft A general term for spacecraft that can support people in carrying out various space activities.

6.2 manned spaceship A manned spacecraft (6.1) capable of carrying astronauts (4.2) into space and back to Earth.

Note. my country's independently developed manned spacecraft include the Shenzhou manned spacecraft and the Mengzhou manned spacecraft. The Shenzhou manned spacecraft consists of an orbital module, a return capsule, and... The propulsion module is used for performing low Earth orbit missions; the "DreamZ" manned spacecraft consists of a return capsule and a service module, capable of performing low Earth orbit missions and manned missions. Lunar exploration mission.

6.3 space station With resupply, maintenance, and repair, it can remain in orbit for extended periods, providing a habitat for astronauts to stay for long periods and supporting large-scale space applications. Celestial Artifacts (6.1).

6.4 space laboratory For conducting technological experiments, it can remain in orbit for extended periods, provide short- to medium-term accommodation for astronauts, and possess the capability to conduct space applications on a certain scale. Spacecraft (6.1).

6.5 cargo spaceship A spacecraft capable of tracking other aircraft (11.1.2) and delivering supplies to the space station (10.4.2).

Note. my country's independently developed cargo spacecraft is called the "Tianzhou Cargo Spacecraft," which transports cargo and replenishes propellant for the space station, and also returns space station waste to the atmosphere. The layer was burned, consisting of a cargo compartment and a propulsion compartment.

6.6 Manned lunar lander It possesses the capability to send astronauts from lunar orbit to a designated area on the lunar surface and/or to take off and ascend to lunar orbit, and supports astronauts. Manned spacecraft conducting lunar activities (6.1).

Note. my country's independently developed manned lunar lander consists of a lunar module and a propulsion module.

6.7 manned lunar rover With the support of relevant systems, it can be piloted and controlled by astronauts, enabling them to move, communicate, and perform certain scientific tasks on the lunar surface. Spacecraft for exploration missions.

6.8 combined spacecraft Multiple spacecraft are assembled together through rendezvous and docking (3.10) or in-orbit assembly (3.35).

6.9 Pressurized module A compartment in a spacecraft that can withstand and maintain a certain internal pressure.

6.10 propulsion module The compartment that provides power and electricity to the spacecraft.

6.11 Orbit module The sealed cabin (6.9) configured on my country's Shenzhou manned spacecraft (6.2) supports astronauts in living, working and conducting scientific experiments in orbit.