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## **Space systems — Space experiments — General requirements**

*Systèmes spatiaux — Expériences spatiales — Exigences générales*



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 14619 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 14, *Space systems and operations*.

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## Introduction

This International Standard establishes the requirements for preparation of space experiments, execution of the experiment and processing of the collected data. Space systems have been used for solving various practical problems of humanity. The possibilities for expanding the use of these systems are far from being exhausted. At the same time, special studies are needed to identify these opportunities, and the results of these studies must be verified by space experiments. The space environment provides ideal conditions for certain scientific studies.

Expenditures for the experiments should be minimal for the initiator of the proposed practical applications of space systems. It often happens that an experiment is conducted on board a space system that is available and has already been in operation (i.e. the experiment becomes part of the operation of the space system itself). The space experiment is carried out using both hardware and software subsystems. This poses the problem of accomplishing two interrelated objectives:

- to ensure successful execution and performance of the experiment;
- to avoid interfering with an operational space system so as not to impair its functioning.

One method of solving this problem is to standardize the procedure for integrating (introducing) space experiments into the operational processes of the carrier space system. This International Standard specifies the procedures for the preparation on the ground for, the execution of, and the processing of the experimental results from space experiments carried out using a space system that is already operational.