

For Comments Only

BUREAU OF INDIAN STANDARDS

DRAFT FOR COMMENTS ONLY

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भारतीय मानक मसौदा

**अंतरिक्ष प्रणालियाँ — परिक्रमा करने वाली वस्तुओं के
बीच टकराव से बचना**

Draft Indian Standard

**Space Systems — Avoiding Collisions Among
Orbiting Objects**

ICS: 49.140

**Air and Space Vehicles Sectional Committee, TED 14 Last date for receipt of comments is
28/08/2024**

NATIONAL FOREWORD

(Identical Clause to be added later)

This Indian Standard which is identical with ISO/TR 16158: 2021 'Space Systems — Avoiding Collisions Among Orbiting Objects' issued by International Organization for Standardization (ISO), was adopted by the Bureau of Indian Standards on the recommendations of Air and Space Vehicles Sectional Committee and approval of the Transport Engineering Division Council.

The text of ISO standard has been proposed as suitable for publication as an Indian Standard without deviations. Certain terminologies and conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

Attention is drawn to the possibility that some of the elements of this standard may be the subject of patent rights. The Bureau of Indian Standards shall not be held responsible for identifying any or all such patent rights.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

SCOPE

This document is a guide for establishing essential collaborative enterprises to sustain the space environment and employ it effectively.

This document describes some widely used techniques for perceiving close approaches, estimating collision probability, estimating the cumulative probability of survival, and maneuvering to avoid collisions.

NOTE Satellite operators accept that all conjunction and collision assessment techniques are statistical. All suffer false positives and/or missed detections. The degree of uncertainty in the estimated outcomes is not uniform across all satellite orbits or all assessment intervals. No comparison within a feasible number of test cases can reveal the set of techniques that is uniformly most appropriate for all.

FOR COMPLETE TEXT OF THE DOCUMENT KINDLY REFER ISO 16158: 2021 or CONTACT:

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