

ISO 23705:2026-06 (E)

Space systems - Identifying, evaluating and avoiding collisions between orbiting objects

Contents

Page

		v
Introduction		vi
1 Scope		1
2 Normative references		1
3 Terms and definitions		1
4 Symbols and abbreviated terms		3
4.1	Abbreviated terms	3
5 CA Requirements for SSA systems and SSA service providers		4
5.1	General requirements	4
5.1.1	Documentation describing conjunction assessment methodology	4
5.1.2	Conjunction assessment operational concept	4
5.2	SSA systems and SSA service providers responsibilities	4
5.2.1	Data exchange with SSA systems and SSA service providers	4
5.2.2	Interface with spacecraft operators	4
5.2.3	Establishment of service conditions between spacecraft operators and SSA service providers	4
5.2.4	Update of the space object catalogue for debris and non-cooperating operators	5
5.2.5	Update of the space object catalogue for cooperating operators	5
5.2.6	Quality assessment of the data used	5
5.2.7	Coordination with third parties	5
5.3	Risk assessment methodology	5
5.3.1	Screening threshold	5
5.3.2	CDM computation	5
5.3.3	Adopted spacecraft or debris equivalent cross-sectional area	5
5.3.4	Adopted spacecraft or debris mass	5
5.3.5	Spacecraft activity status	6
5.3.6	Notification and reporting of upcoming conjunctions	6
6 CA requirements for spacecraft operators		6
6.1	General requirements	6
6.1.1	Documentation describing collision avoidance methodology	6
6.1.2	Collision avoidance operational concept	6
6.2	Spacecraft operator collision risk mitigation and notification responsibilities	7
6.2.1	Spacecraft collision avoidance metrics and thresholds	7
6.2.2	Data exchange with relevant stakeholders	8
6.2.3	Spacecraft attitude reorientation to minimize collision risk	9
6.2.4	Collision avoidance manoeuvre coordination	9
6.2.5	Spacecraft manoeuvrability categories	9
6.2.6	Communication of operator interpretation of manoeuvre rules, planned avoidance manoeuvres, and spacecraft status	9
6.2.7	Collision avoidance manoeuvre go/no-go thresholds	10
6.2.8	Post-CAM collision probability targets	10
6.2.9	Obtaining sufficiently accurate STC	10
6.2.10	Avoiding introduction of new collisions	10
6.2.11	Timeline of collision avoidance manoeuvres	10
Annex A (informative) Collision probability estimation methods		12

Annex B (informative) Covariance realism and relationship between sigma span and probability density percentage	15
Annex C (informative) Perceiving close approaches	18
Annex D (informative) Notification of potential collisions for warning and further action	21
Annex E (informative) Relationship between combined object size, combined positional error, and maximum probability	25
Annex F (informative) Probability contour visualization	28
Bibliography	37