

ISO 20893:2021-02 (E)

Space systems - Detailed space debris mitigation requirements for launch vehicle orbital stages

Contents		Page
	Foreword	iv
	Introduction	v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Avoiding the intentional release of space debris into Earth orbit during normal operations	1
5	Avoiding break-ups in Earth orbit	2
5.1	Accidental break-up caused by an on-board source of energy.....	2
5.1.1	General.....	2
5.1.2	Residual propellants in propulsion systems.....	2
5.1.3	Pressurized gasses in pressure vessels.....	2
5.1.4	Batteries.....	3
5.1.5	Range safety systems.....	3
5.1.6	Probability of accidental break-up due to internal causes.....	3
5.2	Accidental break-up caused by a collision.....	3
6	Disposal of a launch vehicle orbital stage after the end of mission so as to minimize interference with the protected regions	3
6.1	Launch service provider — spacecraft mission designer coordination.....	3
6.2	Selection of disposal option.....	4
6.2.1	Disposal to minimize interference with the geostationary Earth orbit (GEO) protected region.....	4
6.2.2	Disposal to minimize interference with the low Earth orbit (LEO) protected region.....	4
6.3	Probability of successful disposal.....	5
6.4	Contingency planning.....	5
7	Re-entry	5
8	Planning and documentation	6
8.1	General.....	6
8.2	Break-up prevention plan.....	6
8.3	End of mission disposal plan.....	6
8.4	Re-entry plan.....	7
8.5	Documentation.....	7
	Bibliography	8