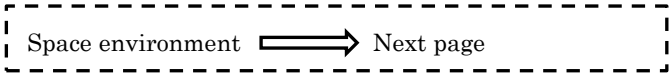


Systems Engineering (Phased-Plan, Technologies, Risk-assess., Test Methods, Environment, etc.)	
Systems engineering	
18676	Guidelines for the management of systems engineering
16290	Definition of the Technology Readiness Levels (TRL) and their criteria of assessment
23135	Space systems — Verification program and management process
Analysis	
14954	Exchange of mathematical models for dynamic and static analysis
16781	Simulation requirements for control system
General test methods	
15864	General test methods for spacecraft, subsystems, and units
24917	General test requirements for launch vehicles
17566	General test documentation
19933	Format for spacecraft launch environmental test report
19924	Acoustic testing
23670	Vibration testing
24411	Space systems — Micro-vibration testing
21494	Space systems — Magnetic testing
24412	Space systems — Thermal vacuum environmental testing
17400	Launch and integration site general test requirements
17540	Liquid rocket engines and test stands - Terms and definitions
19683	Design qualification and acceptance tests of lean satellites and units
16694	The measured parameters at firing bench and flight tests of liquid rocket engines
14953	Structural design — Determination of loading levels for a static qualification test of launch vehicles
24637	EMI test reporting requirements
23569	Space systems — Spacecraft system level radiating frequency (RF) performance test in compact range
5879	LV/SC separation ground test requirements for combined separation test, horizontal separation test and individual falling separation test
Testing for solar cells, etc.	
11221	Space solar panels — Spacecraft charging induced electrostatic discharge test methods
23038	Space solar cells — Electron and proton irradiation test methods
23020	Determination of test methods to characterize material or component properties required for break-up models used for Earth re-entry

Testing for propellants and other fluids	
15859-1 15859-13	Fluid sampling and test methods — Part 1: Oxygen Part 2: Hydrogen propellant, Part 3: Nitrogen, Part 4: Helium propellant, Part 5: Nitrogen tetroxide propellant, Part 6: Monomethylhydrazine propellant, Part 7: Hydrazine propellant, Part 8: Kerosene propellant, Part 9: Argon, Part 10: Water, Part 11: Ammonia, Part 12: Carbon dioxide, Part 13: Breathing air



WG-1

WG-2

WG-3

WG-4

WG-5

WG-6

WG-7

WG-8

Fig.-1 ISO Standards and Technical Reports, etc. (1/2)
(Based on SC14 Work Program @ October 2023)
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Space environment (natural and artificial)	
19923	Spacecraft potential estimation in worst case environment
17851	Space systems – Space environment simulation for material tests – General principles and criteria
Earth’s field	
14222	Space environment (natural and artificial) — Earth upper atmosphere
16695	Earth's internal magnetic reference field models
11225	Guideline to reference and standard atmosphere models [Tech Rpt]
16698	Methods for estimation of future geomagnetic activity
22009	Model of Earth's magnetospheric magnetic field
16457	The Earth’s ionosphere model — International reference ionosphere (IRI) model and extensions to the plasmasphere
14200	Guide to process-based implementation of meteoroid and debris environmental models (orbital altitudes below GEO + 2000 km)
17761	Model of high energy radiation at low altitudes (300-600 km)
21979	Space environment (natural and artificial) — Procedure for obtaining worst case and confidence level of fluence using the quasi-dynamic model of Earth’s radiation belts [Tech Spec]
21980	Evaluation of radiation effects on Commercial-Off-The-Shelf (COTS) parts for use on low-orbit satellites
Solar activities	
21348	Solar irradiance determinations
18147	The method of the solar energetic protons fluences and peak fluxes determination [Tech Rpt]
15856	Simulation guidelines for radiation exposure of non-metallic materials
12208	Observed proton fluences over long duration at GEO and guideline for selection of confidence level in statistical model of solar proton fluences
23989	Operational estimation of the solar wind energy input into the Earth’s magnetosphere by means of the ground-based magnetic Polar Cap (PC) index [Tech Rpt]
Cosmic ray	
15390	Models of galactic cosmic rays
17520	Cosmic ray and solar energetic particle penetration inside the magnetosphere – Method of the effective vertical cut-off determination
Lunar	
10788	Space systems – Lunar simulants
Nanostructured materials	
22295	Space environment (natural and artificial) —Modeling of space environment impact on nanostructured materials — General principles [Tech Spec]

Downstream Space Services	
24245	Space systems — Global Navigation Satellite System (GNSS) receiver class codes
24246	Space systems — Requirements for Global Navigation Satellite System (GNSS) positioning augmentation centers

Fig.-1 ISO Standards and Technical Reports, etc. (2/2)
(based on SC14 Work Program @ October 2023)
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