

LIST OF SUBJECT INDEX TOPIC TITLES

AIRCRAFT TECHNOLOGY, CONVENTIONAL

Aircraft Aerodynamics (Including Component Aerodynamics)	4
Aircraft Cabin Environment and Life Support Systems	4
Aircraft Configuration Design	4
Aircraft Crew Training	4
Aircraft Deceleration Systems	4
Aircraft Economics (Including System Economics)	4
Aircraft Fabrication	4
Aircraft Flight Operations	4
Aircraft Fuels and Fuel Systems	4
Aircraft Gust Loading and Wind Shear	4
Aircraft Handling, Stability, and Control	5
Aircraft Landing Dynamics	5
Aircraft Navigation, Communication, and Traffic Control	5
Aircraft Noise, Aerodynamics (Including Sonic Boom)	5
Aircraft Noise, Powerplant	6
Aircraft Performance	6
Aircraft Powerplant Design and Installation	6
Aircraft Structural Design (Including Loads)	6
Aircraft Structural Materials	6
Aircraft Subsystem Design	6
Aircraft Testing (Including Component Wind Tunnel Testing)	6
Aircraft Vibration	7
Air Transportation Systems	7
General Aviation Systems	7
Ground Support Systems	7
Military Aircraft Missions	7

AIRCRAFT TECHNOLOGY, VTOL

Ground (or Water-Surface) Effect Machines	7
Rotary Wing Aerodynamics	7
VTOL Aircraft Design	7
VTOL Cabin Habitability and Design	7
VTOL Flight Operations	7
VTOL Ground Support Systems	7
VTOL Handling, Stability, and Control	7
VTOL Landing Dynamics	7
VTOL Missions and Transportation Systems	7
VTOL Powerplant Design and Installation	7
VTOL Structural Design (Including loads)	7
VTOL Testing	7
VTOL Vibration	7

FLUID DYNAMICS

Boundary Layers and Convective Heat Transfer—Laminar	7
Boundary Layers and Convective Heat Transfer—Turbulent	8
Boundary-Layer Stability and Transition	9
Hydrodynamics	9
Jets, Wakes, and Viscid-Inviscid Flow Interactions	9
Multiphase Flows	10
Nonsteady Aerodynamics	11
Nozzle and Channel Flow	11
Plasma Dynamics and MHD	11
Radiatively Coupled Flows and Heat Transfer	12
Rarefied Flows	12
Reactive Flows	12
Shock Waves and Detonations	13
Subsonic and Transonic Flow	13
Supersonic and Hypersonic Flow	13
Viscous Nonboundary-Layer Flows	14
Wave Motion and Sloshing	14

INTERDISCIPLINARY TOPICS

Aerospace Management	14
Aerospace Technology Utilization	14
Atmospheric, Space, and Oceanographic Sciences	15
Checkout Systems	15
Computer Technology and Computer Simulation Techniques	15
Electric Power Generation Research	15
Law, History, Policy, and Sociology	15
Lasers	15
Navigation, Control, and Guidance Theory	15
Reliability, Quality Control, and Maintainability	16
Research Facilities and Instrumentation	16
Safety	16

LAUNCH VEHICLE AND MISSILE (LV/M) TECHNOLOGY

LV/M Aerodynamic Heating	16
LV/M Aerodynamics	16
LV/M Configurational Design	16
LV/M Dynamics and Control	16
LV/M Dynamics, Uncontrolled	17
LV/M Fabrication	17
LV/M Flight Testing	17
LV/M Fuel and Propellant Systems (Including Storage and Transfer)	17
LV/M Guidance Systems (Including Command and Information Systems)	17
LV/M Gust Loading and Wind Shear	17
LV/M Mission Studies and Economics	17
LV/M Propulsion System Integration	17
LV/M Simulation	17
LV/M Structural Design (Including Loads)	17
LV/M Subsystem Design	17
LV/M System and Component Ground Testing	17
LV/M Trajectories	17
Launch Vehicle Systems (Including Ground Support)	17
Missile Systems	17
Sounding Rocket Systems	17
Tracking Systems	17

MARINE TECHNOLOGY

Marine Electric Power Systems	17
Marine Materials, Corrosion/Erosion	17
Marine Hydrodynamics, Vessel and Control Surface	18
Marine Mooring Systems and Cable Mechanics	18
Marine Propulsion System Integration	18
Marine Vessel Design (Including Loads)	18
Marine Vessel Systems, Submerged	18
Marine Vessel Systems, Surface	18
Marine Vessel Trajectories, Stability, and Control	18
Marine Vessel Vibration	18
Oceanography, Physical and Biological	18
Propulsion System Hydrodynamics	18
Sea Pollution Containment and Control	18
Undersea Acoustics	18
Undersea Communication	18
Undersea Extra-Vehicular Activity	18
Undersea Habitability and Life Support Systems	18
Undersea Medicine (Including Psychology, Pressure Effects, etc.)	18
Undersea Mining Systems	18

PROPULSION

Airbreathing Engine Testing	18
Airbreathing Propulsion, Hypersonic	18
Airbreathing Propulsion, Subsonic and Supersonic	18
Combustion in Gases	18
Combustion in Heterogeneous Media	18
Combustion Stability, Ignition, and Detonation	19
Electric and Advanced Space Propulsion	19
Fuels and Propellants, Properties of	19
Liquid Rocket Engines	19
Marine Propulsion	20
Nuclear Propulsion	20
Rocket Engine Testing	20
Solid and Hybrid Rocket Engines	20

SPACECRAFT TECHNOLOGY

Data Sensing and Presentation or Transmission Systems	20
Earth Satellite Systems, Unmanned	20
Earth-Orbital Trajectories	20
Entry Deceleration Systems and Flight Mechanics (e.g., Parachutes)	20
Entry Vehicle Dynamics and Control	20
Entry Vehicles and Landers	20
Entry Vehicle Mission Studies and Flight Mechanics	21
Entry Vehicle Testing	21
Extraterrestrial Surface Transportation	21

Extra-Vehicular Activity	21
Lunar and Interplanetary Spacecraft Systems, Manned	21
Lunar and Interplanetary Spacecraft Systems, Unmanned	21
Lunar and Interplanetary Trajectories	21
Meteoroid Protection Systems	21
Radiation Protection Systems	21
Space Crew Training	21
Spacecraft Attitude Dynamics and Control	21
Spacecraft Communication Systems	22
Spacecraft Configurational and Structural Design (Including Loads)	22
Spacecraft Electric Power Systems	22
Spacecraft Flight Testing	22
Spacecraft Ground Testing and Simulation (Including Components)	22
Spacecraft Habitability and Life Support Systems	22
Spacecraft Mission Studies and Economics	22
Spacecraft Navigation, Guidance, and Flight-Path Control Systems	23
Spacecraft Propulsion Systems Integration	23
Spacecraft Sterilization	23
Spacecraft Temperature Control Systems	23
Spacecraft Tracking	23
Space Medicine (Including Weightlessness, Radiation Effects, Psychology, etc.)	23
Space Station Systems, Manned	23

STRUCTURAL MECHANICS AND MATERIALS

Aeroelasticity and Hydroelasticity	23
Hypervelocity Impact	24
Materials, Properties of	24
Structural Composite Materials (Including Coatings)	24
Structural Design, Optimal	24
Structural Dynamic Analysis	24
Structural Stability Analysis	25
Structural Static Analysis	26
Thermal Stresses	26

THERMOPHYSICS AND THERMOCHEMISTRY

Atomic, Molecular, and Plasma Properties	26
Heat Conduction	26
Liquid and Solid Thermophysical Properties	27
Material Ablation	27
Radiation and Radiative Heat Transfer	27
Thermal Modeling and Experimental Thermal Simulation	27
Thermal Surface Properties	27
Thermochemistry and Chemical Kinetics	28

NOTE: An article by Price et al., titled "Pulsed T-Burner Testing of Combustion Dynamics of Aluminized Solid Propellants," was accepted for publication in the *Journal of Spacecraft and Rockets* but was published (with the authors' permission) in the April 1972 *Astronautics & Aeronautics*, for distribution to the entire AIAA membership, as a sample of a Synoptic and Miniprint backup paper. It is indexed in this Combined Journal Index for the convenience of readers. Likewise, the article by Spangler and Nielsen, titled "Theoretical Investigation of the Aerodynamic Characteristics of All-Flexible Parawings," and the article by Schwartz titled "Application of Fracture Mechanics to the Estimation of Fatigue Life," were accepted for publication in the *Journal of Aircraft* but were published as sample Miniprints in the April *Astronautics & Aeronautics*. They also are indexed in this Combined Journal Index.