1996 Journal of Spacecraft and Rockets Index

How to Use the Index

In the Subject Index, pages 892–896, each technical paper is listed under a maximum of three appropriate headings. Note the number in boldface type following each paper title, and use that number to locate the paper in the Chronological Index. The Author Index, pages 897 and 898, lists all authors associated with a given technical paper. The locating numbers are identical to those in the Subject Index. The Chronological Index, pages 899–902, lists all papers by their unique code numbers. This listing contains titles, authors and their affiliations, and volume, issue number, and page where the paper appeared. It also gives the AIAA paper number, if any, on which the article was based, as well as the "CP" or conference volume number if the paper was published in a bound collection of meetings papers. Comments, Replies, and Errata are listed directly beneath the paper to which they refer. If the paper to which they refer was published prior to 1996, that paper also will appear in the Chronological Index. Authors of Comments also are listed in the Author Index. The Book Review Index, page 903, lists the books reviewed during 1996, the author, publisher, reviewer, and the issue, number, and page on which the review appeared.

Subject Index

Aircraft Technology, Conventional, STOL/VTOL

Aerodynamics

Grid Fin Aerodynamics for Missile Applications in Subsonic Flow

A96-005

Flap Efficiency and Heating of a Winged Re-Entry Vehicle

Draining of Liquid from Tanks of Square or Rectangular Cross Sections

A96-048

Numerical Study of Multidirectional-Curvature Waverider with Finlets

A96-077

Computational Study of Supersonic Lateral Jet Flow Interactions

A96-104

Navier-Stokes Calculations for Rotating Configurations: Implementation for Rockets

A96-122

Aerospace Plane

Numerical Study of Multidirectional-Curvature Waverider with Finlets A96-077

Civil Missions and Transportation

Numerical Study of Multidirectional-Curvature Waverider with Finlets A96-077

Configuration Design

Grid Fin Aerodynamics for Missile Applications in Subsonic Flow A96-005

Flight Mechanics

Computation of the Roll Characteristics of a Finned Projectile A96-124

Vibration

Damping Augmentation for Three-Cable Suspension System for Structural Testing

A96-043

Weather Hazards

Martian Surface Wind Speeds Described by the Weibull Distribution A96-121

Energy

Solar Power

Data Analysis and Model Comparison for Solar
Array Module Plasma Interactions Experiment
A96-068
Dual Fuel Solar Thermal Stage: Ideal Analysis

Dual Fuel Solar Thermal Stage: Ideal Analysis

A96-120

Alignment and Initial Operation of an Advanced Solar Simulator A96-140

Wind Power

Martian Surface Wind Speeds Described by the Weibull Distribution A96-121

Fluid Dynamics

Aeroacoustics

Experimental and Numerical Study of Hypersonic Forward-Facing Cavity Flow A96-055

Boundary Layers and Heat Transfer—Laminar

Comparison of Catalytic Wall Conditions for Hypersonic Flow A96-099

Boundary Layers and Heat Transfer— Turbulent

Prediction of Hypersonic Shock-Wave/Turbulent Boundary-Layer Interactions A96-098

Boundary-Layer Stability and Transition

Numerical Investigation of Laminar-Turbulent Transition on Re-Entry Capsules A96-049

Computational Fluid Dynamics

Code Validation for High-Speed Flow Simulation Over Satellite Launch Vehicle A96-002 Grid-Resolved Analysis of Base Flowfield for Four-Engine Clustered Nozzle Configuration

Influence of Sonic-Line Location on Mars Pathfinder Probe Aerothermodynamics A96-025 Flap Efficiency and Heating of a Winged Re-Entry Vehicle A96-026 Cone-Derived Waverider Flowfield Simulation Including Turbulence and Off-Design Conditions A96-027

Computational Fluid Dynamics Validation Using Multiple Interferometric Views of a Hypersonic Flowfield A96-050 Supersonic Base-Flow Computation Using Higher-

Order Closure Turbulence Models A96-058
Computational Pollutant Environment Assessment from Propulsion-System Testing

A96-060 Compressibility and Pressure-Gradient Correc-

tion Assessment for Turbulent Hypersonic Flows

A96-069

Hypersonic Aerodynamic Characteristics of a

Proposed Single-Stage-to-Orbit Vehicle

A96-074
Launch-Vehicle Simulations Using a Concurrent, Implicit Navier—Stokes Solver A96-096
Prediction of Hypersonic Shock-Wave/Turbulent Boundary-Layer Interactions A96-098
Computational Study of Supersonic Lateral Jet Flow Interactions A96-104
Numerical Study of Low-Thrust Nozzles for Satellites A96-110
Hypersonic Nonequilibrium Parallel Multiblock

Navier-Stokes Solver

Lower-Upper Symmetric Gauss-Seidel Scheme
Exhibiting Asymmetric Vortices over Slender
Bodies

A96-119

Computation of the Roll Characteristics of a Finned Projectile A96-124

Hydrodynamics

Gravitational Effects on Closed-Cellular-Foam Microstructure A96-039
Navier-Stokes Calculations for Rotating Configurations: Implementation for Rockets

496-122

Hypersonic Flow

Influence of Sonic-Line Location on Mars Pathfinder Probe Aerothermodynamics A96-025
Flap Efficiency and Heating of a Winged ReEntry Vehicle A96-026
Model for Predicting Hypersonic Laminar NearWake Flowfields A96-045
Numerical Investigation of Laminar-Turbulent
Transition on Re-Entry Capsules A96-049

•	
Computational Fluid Dynamics Validation Using Multiple Interferometric Views of a Hyperson-	P
ic Flowfield A96-050 Hypersonic Nozzle-Afterbody Experiment: Flow	Н
Visualization and Boundary-Layer Measurements A96-051	C
Hypersonic Nozzle-Afterbody Experiment: Flow- field Surveys A96-052 Experimental Investigation of Side-Jet Steering	L
for Supersonic and Hypersonic Missiles A96-054	N
Experimental and Numerical Study of Hypersonic Forward-Facing Cavity Flow A96-055	C
Compressibility and Pressure-Gradient Correction Assessment for Turbulent Hypersonic Flows A96-069	P
Dual-Code Solution Strategy for Hypersonic Flows A96-070	L
Reevaluation of Flight-Derived Surface Recombination-Rate Expressions for Oxygen and Nitrogen A96-071	Т
Recent Aerothermodynamic Flight Measurements During Shuttle Orbiter Re-Entry A96-073	F
Hypersonic Aerodynamic Characteristics of a Proposed Single-Stage-to-Orbit Vehicle A96-074	P
Prediction of Hypersonic Shock-Wave/Turbulent Boundary-Layer Interactions A96-098	E
Comparison of Catalytic Wall Conditions for Hypersonic Flow A96-099 Aerodynamic Analysis of Commercial Experiment	I N
Transporter Re-Entry Capsule A96-102 Method for Calculating Force Coefficients of	
Bodies of Revolution A96-106 Hypersonic Nonequilibrium Parallel Multiblock Navier-Stokes Solver A96-118	F
Liquid Crystal Thermography for Heat Transfer Measurement in Hypersonic Flows: A Review A96-123	s
Inlet, Nozzle, Diffuser, and Channel Flows	E
Grid-Resolved Analysis of Base Flowfield for Four-Engine Clustered Nozzle Configuration A96-003	N
Hypersonic Nozzle-Afterbody Experiment: Flow Visualization and Boundary-Layer Measure-	E
ments A96-051 Hypersonic Nozzle–Afterbody Experiment: Flow- field Surveys A96-052	S
Compressibility and Pressure-Gradient Correction Assessment for Turbulent Hypersonic	S
Flows A96-069 Numerical Study of Low-Thrust Nozzles for Satellites A96-110	I
Jets, Wakes, and Viscid-Inviscid Flow Interactions	
Base-Bleed Experiments with a Cylindrical Afterbody in Supersonic Flow A96-004	
Cone-Derived Waverider Flowfield Simulation Including Turbulence and Off-Design Condi-	
tions A96-027 Model for Predicting Hypersonic Laminar Near-	Ī
Wake Flowfields A96-045 Hypersonic Nozzle–Afterbody Experiment: Flow Visualization and Boundary-Layer Measure-	(
ments A96-051 Hypersonic Nozzle–Afterbody Experiment: Flow-	·
field Surveys A96-052 Experimental Verification of Interference-Free	

Testing Concept for Vehicles with Propulsive

Experimental Investigation of Side-Jet Steering

Supersonic Base-Flow Computation Using Higher-

Experimental and Computational Wake Struc-

for Supersonic and Hypersonic Missiles

Order Closure Turbulence Models

ture Study for a Wide-Angle Cone

A96-053

A96-054

A96-058

A96-076

erformance Aspects of Plug Cluster Nozzles ligh-Enthalpy and Perfect-Gas Heating Measurements on a Blunt Cone Computational Study of Supersonic Lateral Jet Flow Interactions iquid Crystal Thermography for Heat Transfer Measurement in Hypersonic Flows: A Re-Iultiphase Flows Fravitational Effects on Closed-Cellular-Foam Microstructure lasmadynamics and MHD ow-Frequency Waves in the Plasma Environment Around the Shuttle hree-Dimensional Modeling of Dual Ion-Thruster Plumes for Spacecraft Contamina-**Rarefied Flows** arametric and Classical Resonance in Passive Satellite Aerostabilization Experimental and Computational Wake Structure Study for a Wide-Angle Cone leat Transfer in Two-Phase Solid-Rocket Plumes Method for Calculating Force Coefficients of **Bodies of Revolution** Reacting Flows and Combustion Reevaluation of Flight-Derived Surface Recombination-Rate Expressions for Oxygen and Nitrogen Separated Flows tions

Base-Bleed Experiments with a Cylindrical Afterbody in Supersonic Flow A96-004 Model for Predicting Hypersonic Laminar Near-Wake Flowfields A96-045 Experimental Verification of Interference-Free Testing Concept for Vehicles with Propulsive A96-053 Supersonic Base-Flow Computation Using Higher-Order Closure Turbulence Models A96-058 Shock Waves and Detonations nteraction of Solid-Rocket Exhaust with the Atmosphere Subsonic Flow Grid Fin Aerodynamics for Missile Applications in Subsonic Flow A96-005 Supersonic Flow Spike-Nosed Projectiles with Vortex Rings: Steady and Nonsteady Flow Simulations A96-001 Base-Bleed Experiments with a Cylindrical Afterbody in Supersonic Flow A96-004 Cone-Derived Waverider Flowfield Simulation Including Turbulence and Off-Design Condi-A96-027 Experimental Verification of Interference-Free Testing Concept for Vehicles with Propulsive A96-053 Launch-Vehicle Simulations Using a Concurrent, Implicit Navier-Stokes Solver **Fluid Dynamics** Unsteady Flows

Spike-Nosed Projectiles with Vortex Rings: Steady and Nonsteady Flow Simulations A96-001 Microgravity Experiment Acceleration Tolerability on Space Orbiting Laboratories

A96-112

Viscous Non-Boundary-Layer Flows

Aerothermal Study of Mars Pathfinder Aeroshell A96-009

Vortices

A96-081

A96-100

A96-104

A96-123

A96-037

A96-033

A96-076

A96-079

A96-106

A96-071

Response of a Tactical Missile to Convected Aerodynamic Excitation A96-056 Experimental and Computational Wake Structure Study for a Wide-Angle Cone A96-076 Lower-Upper Symmetric Gauss-Seidel Scheme Exhibiting Asymmetric Vortices over Slender **Bodies** A96-119

Guidance, Control, and Dynamics Technology

Aircraft Dynamics

Damping Augmentation for Three-Cable Suspension System for Structural Testing

Astrodynamics

bration of Common Spacecraft Materials A96-038 Mass-Diameter and Characteristic-Length Ratio Functions for Orbital Debris A96-067 Mars Pathfinder Atmospheric Entry: Trajectory Design and Dispersion Analysis A96-107 Solar Force Modeling of Block IIR Global Positioning System Satellites A96-139

Space-Debris Identification Using Optical Cali-

Computer Science

Visual Utility for the Localization of Corona-Accelerated Nuclei A96-114

Control System Design

Moving-Mass Roll Control System for Fixed-Trim Re-Entry Vehicle A96-008 Microgravity Isolation System Design: A Modern Control Synthesis Framework A96-015 Microgravity Isolation System Design: A Modern Control Analysis Framework A96-016 Microgravity Isolation System Design: A Case Study A96-017

Dynamics

Virtual Aerodynamical Coefficients of a Rotating Satellite A96-093

Flight Mechanics

Moving-Mass Roll Control System for Fixed-Trim Re-Entry Vehicle A96-008 Phugoid Motion for Grazing-Entry Trajectories at Near-Circular Speeds A96-030 Improved Missile Control Effectiveness Payoffs A96-103

Launch Vehicle Dynamics

Orbital Re-Entry Experiment Vehicle Ground and Flight Dynamic Test Results Comparison A96-101 Formulation and Analysis of Launch Vehicle A96-131 Maneuvering Loads

Launch Vehicle Guidance and Control

Formulation and Analysis of Launch Vehicle Maneuvering Loads A96-131

Missile Dynamics

In-Flight Flexure and Spin Lock-In for Antitank Kinetic Energy Projectiles A96-105

Missile Guidance and Control

Moving-Mass Roll Control System for Fixed-Trim Re-Entry Vehicle A96-008 Midcourse Guidance for a Short-Range Attack Missile Using Error Compensation A96-028 Improved Missile Control Effectiveness Payoffs A96-103

Guidance, Control, and Dynamics **Technology**

Optimization Techniques

Decomposition Algorithm for Performance Opti-A96-031 mization of a Launch Vehicle Near-Optimal Low-Thrust Orbit Transfers Generated by a Genetic Algorithm A96-138

Spacecraft Dynamics

Phugoid Motion for Grazing-Entry Trajectories at Near-Circular Speeds Parametric and Classical Resonance in Passive Satellite Aerostabilization A96-033 Multipayload Modeling for the Upper Atmosphere Research Satellite A96-078 Measured Spacecraft Instrument and Structural Interactions Slosh Dynamics Coupled with Spacecraft Attitude Dynamics Part 1: Formulation and Theo-Slosh Dynamics Coupled with Spacecraft Attitude Dynamics Part 2: Orbital Environment Application Nonlinear Dynamical Characteristics Analysis of Tethered Subsatellite in the Presence of Off-A96-133 Solar Force Modeling of Block IIR Global Positioning System Satellites A96-139

Spacecraft Guidance and Control

Slosh Dynamics Coupled with Spacecraft Attitude Dynamics Part 1: Formulation and Theo-Slosh Dynamics Coupled with Spacecraft Attitude Dynamics Part 2: Orbital Environment Application A96-092 Coning Instability of Spacecraft During Periods of Thrust A96-126 Solar Force Modeling of Block IIR Global Positioning System Satellites A96-139

Structural Control

Satellite Active and Passive Vibration Control **During Liftoff**

Trajectory Optimization

Midcourse Guidance for a Short-Range Attack Missile Using Error Compensation A96-028 Near-Optimal Low-Thrust Orbit Transfers Generated by a Genetic Algorithm A96-138

Interdisciplinary Topics

Aerospace Management

Effects on Operations of Highly Adaptive Mis-A96-044

Aerospace Technology Utilization

Versatile Fluid-Mixing Device for Cell and Tissue Microgravity Research Applications

Analytical and Numerical Methods

Formulation and Analysis of Launch Vehicle Maneuvering Loads A96-131

Atmospheric and Space Sciences

Spacecraft Interaction with Atmospheric Species in Low Earth Orbit A96-019 Local Effects of Solid Rocket Motor Exhaust on Stratospheric Ozone Trapped Electron Fluxes Measured by International Ultraviolet Explorer and AE-8 Model Predictions A96-024 Vehicle Glow Measurements on Space Transportation System Flight 62 A96-035 Low-Frequency Waves in the Plasma Environment Around the Shuttle A96-037 Optical Radiations from Interaction of Effluent Gases with the Low-Orbital Atmosphere A96-061

Payload Environment and Gas Release Effects on Sounding Rocket Neutral Pressure Measurements A96-080 Solid-Rocket-Motor Contribution to Large-Particle Orbital Debris Population A96-082 Interaction of Solid-Rocket Exhaust with the Atmosphere A96-108 Visual Utility for the Localization of Corona-Accelerated Nuclei A96-114 Martian Surface Wind Speeds Described by the Weibull Distribution A96-121 Tradeoffs Between Science Objectives and

Research Facilities and Instrumentation

Ground System Capability

Versatile Fluid-Mixing Device for Cell and Tissue Microgravity Research Applications A96-018 Heat Capacity of Confined Helium Very Near the

Lambda Point A96-022 Predictions of Counterfire Impact Results Obtained at 12 Kilometers per Second A96-125

Sensor Systems

Thunderstorm III 4-Megahertz Burst-Mode Data Acquisition System A96-013

Launch Vehicle and Missile (LV/M) Technology

Aerodynamics

Spike-Nosed Projectiles with Vortex Rings: Steady and Nonsteady Flow Simulations Code Validation for High-Speed Flow Simulation Over Satellite Launch Vehicle A96-002 Grid-Resolved Analysis of Base Flowfield for Four-Engine Clustered Nozzle Configuration A96-003

Three-Dimensional Computational Analysis of Complex Launch Vehicle Configurations

A96-007

A96-124

A96-143

Experimental Investigation of Side-Jet Steering for Supersonic and Hypersonic Missiles A96-054

Experimental and Numerical Study of Hypersonic Forward-Facing Cavity Flow A96-055 Aeroprediction Code for Angles of Attack Above 30 Degrees A96-057 Launch-Vehicle Simulations Using a Concurrent, Implicit Navier-Stokes Solver A96-096 In-Flight Flexure and Spin Lock-In for Antitank Kinetic Energy Projectiles A96-105 Lower-Upper Symmetric Gauss-Seidel Scheme Exhibiting Asymmetric Vortices over Slender A96-119 Computation of the Roll Characteristics of a

Finned Projectile

Configuration Design

Aeroprediction Code for Angles of Attack Above 30 Degrees A96-057 Analysis of Concepts for Single Stage to Orbit A96-094

Launch Vehicle and Sounding Rocket Systems

Three-Dimensional Computational Analysis of Complex Launch Vehicle Configurations A96-007

Investigation of Space Launch Vehicle Catastrophic Failures A96-029 Russian RD-704 for Single-Stage Vehicles

A96-047 Analysis of Concepts for Single Stage to Orbit

A96-094

Missile Systems

Aeroprediction Code for Angles of Attack Above 30 Degrees

Mission Studies and Economics

Analysis of Concepts for Single Stage to Orbit

Propulsion and Propellant Systems

Russian RD-704 for Single-Stage Vehicles

A96-047 Draining of Liquid from Tanks of Square or Rectangular Cross Sections A96-048 Computational Pollutant Environment Assessment from Propulsion-System Testing

A96-060

Effect of Transpiration Cooling on Nozzle Heat Transfer A96-072 Device to Suppress Vortexing During Draining from Cylindrical Tanks A96-095 Dual Fuel Solar Thermal Stage: Ideal Analysis

Coning Instability of Spacecraft During Periods of Thrust A96-126 Roll Torques Produced by Fixed-Nozzle Solid Rocket Motors A96-127

Thrust Misalignments of Fixed-Nozzle Solid Rocket Motors A96-128

Simulation

Decomposition Algorithm for Performance Optimization of a Launch Vehicle A96-031

Testing, Flight and Ground

Predictions of Counterfire Impact Results Obtained at 12 Kilometers per Second A96-125 Roll Torques Produced by Fixed-Nozzle Solid Rocket Motors A96-127 Thrust Misalignments of Fixed-Nozzle Solid Rocket Motors A96-128

Vibration

Transonic Drag Effect on Vibration Characteristics of Single-Stage Space Vehicles A96-046 Response of a Tactical Missile to Convected Aerodynamic Excitation A96-056

Propulsion

Combustion and Combustor Designs

Effect of Transpiration Cooling on Nozzle Heat Transfer A96-072

Electric and Advanced Space Propulsion

Arcjet Development for Amateur Radio Satellite A96-012

System Optimization of Ablative Pul	sed Plasma			
Thrusters for Stationkeeping	A96-014			
Frequency-Domain Electromagnetic	Character-			
istics of a 26-Kilowatt Ammonia Arcjet				
	A96-020			
Three-Dimensional Modeling of	Dual Ion-			
Thruster Plumes for Spacecraft	Contamina-			
tion	A96-083			

Evaluation of the United Kingdom Ion Thruster

Engine Performance

Performance Aspects of Plug Cluster Nozzles
A96-0

Environmental Effects

Computational Pollutant Environment Assessment from Propulsion-System Testing

196-06

Payload Environment and Gas Release Effects on Sounding Rocket Neutral Pressure Measurements A96-080

Solid-Rocket-Motor Contribution to Large-Particle Orbital Debris Population A96-082

Liquid Rocket Motors and Missile Systems

Investigation of Space Launch Vehicle Catastrophic Failures A96-029 Performance Aspects of Plug Cluster Nozzles

A96-081
Device to Suppress Vortexing During Draining from Cylindrical Tanks A96-095

Solid Rocket Motors and Missile Systems

Local Effects of Solid Rocket Motor Exhaust on Stratospheric Ozone A96-021 Investigation of Space Launch Vehicle Catastrophic Failures A96-029

Coning Instability of Spacecraft During Periods of Thrust A96-126

Space Technology

Aerobraking Configurations/ Aerothermodynamics

Mars Sample Return: A Direct and Minimum-Risk Design

A96-059

High-Enthalpy and Perfect-Gas Heating Measurements on a Blunt Cone

A96-100

Orbital Re-Entry Experiment Vehicle Ground and Flight Dynamic Test Results Comparison

Aerobraking Flight Mechanics

Influence of Sonic-Line Location on Mars Pathfinder Probe Aerothermodynamics A96-025
Virtual Aerodynamical Coefficients of a Rotating Satellite A96-093
Orbital Re-Entry Experiment Vehicle Ground
and Flight Dynamic Test Results Comparison
A96-101

Aerodynamic Analysis of Commercial Experiment Transporter Re-Entry Capsule A96-102

Mission Design and Analysis

Electric-Propulsion Spacecraft Optimization for Lunar Missions A96-034

Bent-Biconic Single-Stage-to-Orbit Vehicle Conceptual Study A96-075

Mars Pathfinder Atmospheric Entry: Trajectory Design and Dispersion Analysis A96-107

Space Station Based Tethered Interferometer for Natural Disaster Monitoring A96-111

Experimental Assessment of the Influence of Heat Pipes on a Nutating Satellite A96-113

Small Solar Probe
Tradeoffs Between Science Objectives and
Ground System Capability
A96-143

Mission Trajectories (Earth and Interplanetary)

Decomposition Algorithm for Performance Optimization of a Launch Vehicle
A96-031
Electric-Propulsion Spacecraft Optimization for Lunar Missions
A96-034
Virtual Aerodynamical Coefficients of a Rotating Satellite
A96-093
Mars Pathfinder Atmospheric Entry: Trajectory Design and Dispersion Analysis
A96-107

Space Experiments

Analysis of the Solwind Fragmentation Event
Using Theory and Computations
A96-011
Thunderstorm III 4-Megahertz Burst-Mode Data
Acquisition System
A96-013
Microgravity Isolation System Design: A Modern Control Synthesis Framework
Microgravity Isolation System Design: A Modern Control Analysis Framework
Versatile Fluid-Mixing Device for Cell and Tissue Microgravity Research Applications
A96-018

A96-018

Spacecraft Interaction with Atmospheric Species in Low Earth Orbit

Heat Capacity of Confined Helium Very Near the Lambda Point

United States and Russian Thermal Control Coating Results in Low Earth Orbit

Parametric and Classical Resonance in Passive Satellite Aerostabilization

Vehicle Glow Measurements on Space Transpor-

tation System Flight 62 A96-035
Experimental Validation of Particle Model Drift
Theories A96-036

Low-Frequency Waves in the Plasma Environment Around the Shuttle A96-037 Space-Debris Identification Using Optical Cali-

bration of Common Spacecraft Materials

A96-038

Effects on Operations of Highly Adaptive Missions

A96-044
Optical Radiations from Interaction of Effluent
Gases with the Low-Orbital Atmosphere

Data Analysis and Model Comparison for Solar
Array Module Plasma Interactions Experiment

A96-068

Payload Environment and Gas Release Effects on Sounding Rocket Neutral Pressure Measurements

A96-080

Space Station Based Tethered Interferometer for Natural Disaster Monitoring A96-111 Microgravity Experiment Acceleration Tolera-

bility on Space Orbiting Laboratories
A96-112

Spacecraft Charging Anomaly on a Low-Altitude Satellite in an Aurora A96-116 Radiation-Induced Anomalies in Satellites

A96-142

System Optimization of Ablative Pulsed Plasma

Thrusters for Stationkeeping

Space Systems

Effects on Operations of Highly Adaptive Missions

A96-044

Slosh Dynamics Coupled with Spacecraft Attitude Dynamics Part 1: Formulation and Theory

A96-091

Slosh Dynamics Coupled with Spacecraft Attitude Dynamics Part 2: Orbital Environment Application

A96-092

Application A96-092 Prediction
Space Station Based Tethered Interferometer for Natural Disaster Monitoring A96-111 Theories

A96-014

Microgravity Experiment Acceleration Tolerability on Space Orbiting Laboratories

Experimental Assessment of the Influence of Heat Pipes on a Nutating Satellite A96-113 Visual Utility for the Localization of Corona-Accelerated Nuclei A96-114 Spacecraft Charging Anomaly on a Low-Altitude Satellite in an Aurora A96-116

Space-Based Electrostatic Antenna Design with
Pointing and Beam Width Control
Reliability Analysis of Transmission Requirements in Communication Satellite Systems

Dual Fuel Solar Thermal Stage: Ideal Analysis

Radiation-Induced Anomalies in Satellites

A96-137 es A96-142

Spacecraft Attitude Determination

Measured Spacecraft Instrument and Structural Interactions

Experimental Assessment of the Influence of Heat Pipes on a Nutating Satellite

A96-113

Spacecraft Communication

Systems Design of a Satellite Link Protocol

A96-006
Deployment of Dishes with Surface Discontinuities

A96-090
Space-Based Electrostatic Antenna Design with
Pointing and Beam Width Control

A96-135

Spacecraft Contamination/Sterilization

Optical Radiations from Interaction of Effluent Gases with the Low-Orbital Atmosphere

A96-061

Three-Dimensional Modeling of Dual Ion-Thruster Plumes for Spacecraft Contamination A96-083

Interaction of Solid-Rocket Exhaust with the Atmosphere A96-108

Spacecraft Data Sensing, Processing, and Transmission

Thunderstorm III 4-Megahertz Burst-Mode Data
Acquisition System A96-013
Measured Spacecraft Instrument and Structural
Interactions A96-088

Spacecraft Power

Data Analysis and Model Comparison for Solar
Array Module Plasma Interactions Experiment
A96-068
Alignment and Initial Operation of an Advanced
Solar Simulator
A96-140

Spacecraft Propulsion System Integration

Arcjet Development for Amateur Radio Satellite
A96-012

Frequency-Domain Electromagnetic Characteristics of a 26-Kilowatt Ammonia Arcjet

A96-020

Evaluation of the United Kingdom Ion Thruster

A96-117
Roll Torques Produced by Fixed-Nozzle Solid

Rocket Motors A96-127
Thrust Misalignments of Fixed-Nozzle Solid
Rocket Motors A96-128

Spacecraft Radiation Protection

Trapped Electron Fluxes Measured by International Ultraviolet Explorer and AE-8 Model Predictions A96-024

Experimental Validation of Particle Model Drift Theories A96-036

Radiation-Induced	Anomalies in	Satellites
		A96-142

Spacecraft Sensor Systems

Experimental Validation of Particle Model Drift
Theories A96-036
Spacecraft Charging Anomaly on a Low-Altitude
Satellite in an Aurora A96-116

Spacecraft Structural Configuration, Design, and Analysis

Three-Dimensional Computational Analysis of Complex Launch Vehicle Configurations

A96-00

Dynamic Continuum Modeling of Truss-Type Space Structures Using Spectral Elements A96-062

Two-Dimensional Deployable Hexapod Truss

Combining Genetic and Deterministic Algorithms for Locating Actuators on Space Structures

A96-065

Multipayload Modeling for the Upper Atmosphere Research Satellite A96-078

Deployment of Dishes with Surface Discontinuities A96-090

Reliability Analysis of Transmission Requirements in Communication Satellite Systems

A96-137

A96-132

Spacecraft Test and Evaluation

In-Orbit Deployment Performance of Large Satellite Antennas

A96-032

Ground Modal Tests of Space-Structure Components Using Boundary Masses

A96-040

Space-Station Breadboard Beta Gimbal Assembly: Thermal-Vacuum Testing and Analyses

A96-109

Evaluation of the United Kingdom Ion Thruston

Apalysis of Nonlinear Mechanisms in a Precision

Analysis of Nonlinear Mechanisms in a Precision
Deployable Structure Using Measured Flexibility
A96-136

Five-Electron-Volt Atomic Oxygen Pulsed-Beam Characterization by Quadrupolar Mass Spectrometry A96-141

United States and Russian Thermal Control

Spacecraft Thermal Management

Coating Results in Low Earth Orbit
Microencapsulated Phase-Change Material Suspensions for Heat Transfer in Spacecraft Thermal Systems
A96-041
Development and Verification of a Cryogenic
Brilliant Eyes Thermal Storage Unit
A96-089
Small Solar Probe
A96-115

Structural Mechanics and Materials

Weight Optimization for Honeycomb Radiators

Aeroelasticity and Control

with Embedded Heat Pipes

In-Flight Flexure and Spin Lock-In for Antitank Kinetic Energy Projectiles A96-105

Dynamic Model Analysis

Ground Modal Tests of Space-Structure Components Using Boundary Masses

Multipayload Modeling for the Upper Atmosphere Research Satellite

A96-078

Flexible and Active Structures

Combining Genetic and Deterministic Algorithms for Locating Actuators on Space Structures

A96-065

Analysis of Nonlinear Mechanisms in a Precision Deployable Structure Using Measured Flexibility A96-136

Materials Structural Properties

Gravitational Effects on Closed-Cellular-Foam Microstructure A96-039

Structural Design

In-Orbit Deployment Performance of Large Satellite Antennas A96-032

Multicriterion Preliminary Design of a Tetrahedral Truss Platform A96-063

Two-Dimensional Deployable Hexapod Two-064

Large-Angle Articulated Beam Truss Design Methodology Considering Offset Joint Modeling A94-086

Deployment of Dishes with Surface Discontinuities A96-090

Structural Dynamics and Characterization

In-Orbit Deployment Performance of Large Satellite Antennas

Ground Modal Tests of Space-Structure Components Using Boundary Masses

Transonic Drag Effect on Vibration Characteristics of Single-Stage Space Vehicles

Response of a Tactical Missile to Convected Aerodynamic Excitation

A96-056

Dynamic Continuum Modeling of Truss-Type Space Structures Using Spectral Elements

A96-062

Structural Modeling

Transonic Drag Effect on Vibration Characteristics of Single-Stage Space Vehicles

A96-046

Dynamic Continuum Modeling of Truss-Type Space Structures Using Spectral Elements

A96-062
Large-Angle Articulated Beam Truss Design
Methodology Considering Offset Joint Modeling A96-086

Analysis of Nonlinear Mechanisms in a Precision
Deployable Structure Using Measured Flexibility

A96-136

Structural Optimization

Multicriterion Preliminary Design of a Tetrahedral Truss Platform

A96-063

Combining Genetic and Deterministic Algorithms for Locating Actuators on Space Structures

A96-065

Structural Stability

Vibration of Geometrically Imperfect Panels Subjected to Thermal and Mechanical Loads

Thermal Effects

Vibration of Geometrically Imperfect Panels Subjected to Thermal and Mechanical Loads A96-042

Thermophysics and Heat Transfer

Aerothermodynamics/Thermal Protection

Aerothermal Study of Mars Pathfinder Aeroshell
A96-009
Mars Sample Return: A Direct and Minimum-Risk Design
A96-059
Dual-Code Solution Strategy for Hypersonic Flows
A96-070
Reevaluation of Flight-Derived Surface Recombination-Rate Expressions for Oxygen and Nitrogen
A96-071

Recent Aerothermodynamic Flight Measurements During Shuttle Orbiter Re-Entry

A96-07.

High-Enthalpy and Perfect-Gas Heating Measurements on a Blunt Cone A96-100

Liquid Crystal Thermography for Heat Transfer Measurement in Hypersonic Flows: A Review A96-123

Navier-Stokes Heating Calculations for Benchmark Thermal Protection System Sizing

A96-130

Computational Heat Transfer

Heat Transfer in Two-Phase Solid-Rocket Plumes
A96-079

Cryogenics

Heat Capacity of Confined Helium Very Near the Lambda Point A96-022

Development and Verification of a Cryogenic Brilliant Eyes Thermal Storage Unit A96-089

Electronics Cooling

Microencapsulated Phase-Change Material Suspensions for Heat Transfer in Spacecraft Thermal Systems A96-041

Forced Convection

Effect of Transpiration Cooling on Nozzle Heat Transfer A96-072

Recent Aerothermodynamic Flight Measurements
During Shuttle Orbiter Re-Entry A96-073

Heat Transfer in Two-Phase Solid-Rocket Plumes
A96-079

Melting/Solidification

Microencapsulated Phase-Change Material Suspensions for Heat Transfer in Spacecraft Thermal Systems A96-041

Development and Verification of a Cryogenic Brilliant Eyes Thermal Storage Unit A96-089

Radiation Interchange Between Surfaces

Space-Station Breadboard Beta Gimbal Assembly: Thermal-Vacuum Testing and Analyses

A96-109

Thermal Control

Weight Optimization for Honeycomb Radiators with Embedded Heat Pipes A96-132

Thermal Modeling and Analysis

Space-Station Breadboard Beta Gimbal Assembly: Thermal-Vacuum Testing and Analyses

A96-109

A96-109
Navier-Stokes Heating Calculations for Benchmark Thermal Protection System Sizing

A96-130

Weight Optimization for Honeycomb Radiators with Embedded Heat Pipes A96-132

Thermochemistry and Chemical Kinetics

Aerothermal Study of Mars Pathfinder Aeroshell A96-009