

- A universal three-angle basis for rotational kinematic analysis, simulation and control. James Nohl Churchyard (JSR, EN) 779
 Secondary jet interaction with emphasis on outflow and jet location. Jerry N. Hefner and James R. Sterrett (JSR, EN) 845
 Placement of observer eigenvalues. Gregory J. Nazarov, Larry D. Levens, and Garry A. Hewer (AIAA J, TN) 1686

LV/M Dynamics, Uncontrolled

- Side forces on ogive-cylinder bodies at high angles of attack in transonic flow. George S. Pick (JSR, SYN) 389
 A general transport rule for variable mass dynamics. Stuart B. Belnap (AIAA J, SYN) 1137
 An analysis of asymmetric rolling bodies with nonlinear aerodynamics. Ali Hasan Nayfeh and William S. Saric (AIAA J) 1004
 Experimental studies with a liquid-filled gyroscope. B. G. Karpov, J. T. Frasier, and W. P. D'Amico (JSR, EN) 220
 Aerodynamic characteristics of the slotted fin. P. Daniels and T. A. Clare (JA, EN) 603
 Wind-tunnel Magnus testing of a canted fin or self-rotating configuration. Anders S. Platou (AIAA J, TN) 965

LV/M Fabrication

- Stress corrosion cracking and hydrogen embrittlement of high-strength fasteners. James K. Stanley (JSR) 796

LV/M Flight Testing

- Base thermal environment of Delta vehicle with six strap-on motors. G. F. Greenwald (JSR, SYN) 727
 Flight test base pressure results at hypersonic Mach numbers in turbulent flow. J. M. Cassanto (AIAA J, TN) 329
 Flight evaluation of a quartz-fiberfrax heat shield. George F. Greenwald (JSR, EN) 939

LV/M Fuel and Propellant Systems (including Storage and Transfer)

- Control of the thermodynamic state of space-stored cryogenics by jet mixing. Louis J. Poth and James R. Van Hook (JSR) 332
 Prediction of pressure during evacuation of multilayer insulation. A. P. M. Glassford (JSR, EN) 378

LV/M Guidance Systems (including Command and Information Systems)

- Fluidic inertial platform. Rolf K. Brodersen (JSR, SYN) 131
 Minimum energy intercept of a deorbiting target. Dennis E. Fitzgerald (AIAA J, TN) 511
 A nonlinear guidance scheme for intercept mission. Robert F. Webber and Giovanni Bonfanti (AIAA J, TN) 1237
 Comment on "Proportional navigation vs an optimally evading, constant-speed target in two dimensions." E. M. Cliff (JSR, TC) 224
 —Reply by author to E. M. Cliff. Paul M. Julich (JSR, TC) 224

LV/M Gust Loading and Wind Shear

- Launch vehicle gust penetration loads. L. E. Ericsson, J. P. Reding, and R. A. Guenther (JSR) 19
 Small-scale wind shear definition for aerospace vehicle design. George H. Fichtl (JSR) 79

LV/M Mission Studies and Economics

LV/M Propulsion System Integration

- Base thermal environment of Delta vehicle with six strap-on motors. G. F. Greenwald (JSR, SYN) 727

LV/M Simulation

- Three-degree-of-freedom motions of a slender asymmetric cone in a hypersonic wind tunnel. L. K. Ward Jr., J. C. Uselton, and J. P. Billingsley (JSR) 831
 Prediction of pressure during evacuation of multilayer insulation. A. P. M. Glassford (JSR, EN) 378

LV/M Structural Design (including Loads)

- Flexure of laminated Reissner plates. David N. Hutula and Donald G. Lemke (JSR) 84
 A practical approach to spacecraft structural dynamics problems. M. R. Trubert (JSR) 818
 Stability of a laminated anisotropic circular plate. Sam Tang (JSR, EN) 123
 Panel-flutter analysis of a thermal protection-shield concept for the space shuttle. Herbert J. Cunningham (AIAA J, TN) 1101

LV/M Subsystem Design

- Base flow environment analysis of a single engine booster. Yong S. Hong (JSR, SYN) 481
 Dual flex—A low horsepower flexible seal nozzle. Jonathan W. Wilson, Wendell O. Johnson, and Philip C. Sottosanti (JSR, SYN) 567
 Flight evaluation of a quartz-fiberfrax heat shield. George F. Greenwald (JSR, EN) 939

LV/M System and Component Ground Testing

- A practical approach to spacecraft structural dynamics problems. M. R. Trubert (JSR) 818
 Three-degree-of-freedom motions of a slender asymmetric cone in a hypersonic wind tunnel. L. K. Ward Jr., J. C. Uselton, and J. P. Billingsley (JSR) 831
 Method for constructing a full modal damping matrix from experimental measurements. T. K. Hasselman (AIAA J, TN) 526

LV/M Trajectories

- Three-degree-of-freedom motions of a slender asymmetric cone in a hypersonic wind tunnel. L. K. Ward Jr., J. C. Uselton, and J. P. Billingsley (JSR) 831
 An analysis of asymmetric rolling bodies with nonlinear aerodynamics. Ali Hasan Nayfeh and William S. Saric (AIAA J) 1004
 Plume impingement force during tandem stage separation at high altitudes. Michael W. Su and Charles R. Mullen Jr. (JSR, EN) 715
 Short term bounds for the effect of oblateness on ballistic trajectories. Richard W. Longman (JSR, EN) 842

Launch Vehicle Systems (including Ground Support)

- Stage separation of parallel-staged shuttle vehicles: A capability assessment. Michael J. Hurley Jr. and George W. Carrie (JSR) 764
 Mixed-mode propulsion: Optimum burn profile for two-mode systems. Robert Salkeld and Robert S. Skulsky (JSR, EN) 475
 Plume impingement force during tandem stage separation at high altitudes. Michael W. Su and Charles R. Muller Jr. (JSR, EN) 715

Missile Systems

- A nonlinear guidance scheme for intercept mission. Robert F. Webber and Giovanni Bonfanti (AIAA J, TN) 1237
 An experimental investigation of the downstream effects of upstream boundary-layer injection. John A. Marshall II and Seshadri Srinivasan (AIAA J, TN) 1339

Sounding Rocket Systems

- Structural considerations in the development of an extremely lightweight decelerator. Peter G. Niederer (JSR) 351
 Equations of motion of a constrained split fairing system during opening. Robert C. Saunders Jr. (JSR, EN) 55

Tracking Systems

- Trajectory determination from shock arrival times. Walter P. Reid (AIAA J, TN) 537

MARINE TECHNOLOGY

Marine Electric Power Systems

- Prospects for superconducting systems in military submarines. Paris Alexander Dimitriadis (JH) 16

Marine Materials, Corrosion/Erosion

Marine Hydrodynamics, Vessel and Control Surface

Theory for the first-order gravitational effects on ship forces and moments in shallow water. J. P. Breslin (JH, EN) 110

Marine Mooring Systems and Cable Mechanics

Configuration of a towline attached to a vehicle moving in a circular path. Young-il Choo and Mario J. Casarella (JH) 51

Marine Propulsion System Integration

Prospects for superconducting systems in military submarines. Paris Alexander Dimitriadis (JH) 16

Marine Vessel Design (including Loads)

Stresses in the blades of a cargo ship propeller. H. G. Keil, J. J. Blaurock, and E. A. Weitendorf (JH) 2
Added mass of a circular cylinder in contact with a rigid boundary. C. J. Garrison (JH, EN) 59

Marine Vessel Systems, Submerged

Prospects for superconducting systems in military submarines. Paris Alexander Dimitriadis (JH) 16
Configuration of a towline attached to a vehicle moving in a circular path. Young-il Choo and Mario J. Casarella (JH) 51
Cable interactions in a depth controlled submersible. Jacob M. Abel (JH) 83

Marine Vessel Systems, Surface**Marine Vessel Trajectories, Stability, and Control**

Configuration of a towline attached to a vehicle moving in a circular path. Young-il Choo and Mario J. Casarella (JH) 51
Cable interactions in a depth controlled submersible. Jacob M. Abel (JH) 83
Towed vehicle system in a coordinated turn. Thomas C. Cannon and Joseph Genin (AIAA J) 252

Marine Vessel Vibration

Stresses in the blades of a cargo ship propeller. H. G. Keil, J. J. Blaurock, and E. A. Weitendorf (JH) 2
Dynamic similarity scaling laws applied to cables. M. Lowell Collier Jr. (JH, EN) 111
Nonlinear axisymmetric flexural vibration equations of a cylindrically anisotropic circular plate. Chi-lung Huang (AIAA J, TN) 1378
Transient interaction of a flexible ring-reinforced shell and a fluid medium. Jerry W. Berglund (AIAA J, TN) 1540

Oceanography, Physical and Biological

Pollution monitoring: An engineering challenge. J. M. Snodgrass (JH, EN) 115

Propulsion System Hydrodynamics

Airfoil in a contracting or diverging stream. B. Lakshminarayana and M. T. White (JA) 354
Analysis of free turbulent mixing flows without a net momentum defect. Joseph A. Schetz and Stanley Favini (AIAA J, TN) 1524

Sea Pollution Containment and Control

Pollution monitoring: An engineering challenge. J. M. Snodgrass (JH, EN) 115

Undersea Acoustics

Acoustic radiation from two concentric cylindrical shells. Martin L. Pollack and Jerome M. Klosner (AIAA J) 1631

Undersea Communication**Undersea Extra-Vehicular Activity****Undersea Habitability and Life Support Systems****Undersea Medicine (Including Psychology, Pressure Effects, etc.)**
Undersea Mining Systems**PROPULSION****Airbreathing Engine Testing**

Design and testing of the American Airlines prototype B-747 AIDS system. H. D. Kruckenberg (JA) 259

Airbreathing Propulsion, Hypersonic

Supersonic annular nozzles. David Migdal (JSR) 3
Preliminary results of large supersonic burning combustor testing. A. J. Metzler and T. W. Mertz (JA) 23
Gas dynamic and transport phenomena in the two-dimensional jet interaction flowfield. W. J. Thayer III and R. C. Corlett (AIAA J) 488
Investigation of a supersonic surface jet—Hypersonic flow interaction with axial symmetry. Raymond P. Shreeve, Gordon C. Oates, and Harlow G. Ahlstrom (AIAA J) 589
Mixed-mode propulsion: Optimum burn profile for two-mode systems. Robert Salkeld and Robert S. Skulsky (JSR, EN) 475
Two-dimensional model for thermal compression. F. S. Billig (JSR, EN) 702
Swirling base injection for supersonic combustion ramjets. Louis A. Povinelli and Robert C. Ehlers (AIAA J, TN) 1243

Airbreathing Propulsion, Subsonic and Supersonic

Boron particle nonequilibrium effects in combustor ducted flows. L. Douglas Smoot and Gregory S. Anderson (AIAA J, SYN) 857
Prospects for improvement in efficiency of flight propulsion systems. R. M. Denning and J. A. Hooper (JA) 9
Pilot ignition of cold supersonic flows. Kenneth N. C. Bray and Ronald S. Fletcher (AIAA J) 72
Low-area ratio, thrust-augmenting ejectors. Richard B. Fancher (JA) 243
Exploratory analysis of nonuniform plug nozzle flowfields. Charles R. Hall Jr. and Thomas J. Mueller (JSR) 337
Airfoil in a contracting or diverging stream. B. Lakshminarayana and M. T. White (JA) 354
Combined viscous-inviscid analysis of supersonic inlet flowfields. Theodore A. Reyhner and Timothy E. Hickcox (JA) 589
Experimental correlation of installation effects on inlet pressure recovery. W. H. Ball and P. A. Ross (JA) 596
Analytical method for combining the interaction of inlet distortion and turbulence. Ronald L. Panton (JA) 636
Film cooling of insert turbine vane trailing edges. E. C. Bassinot (JA) 849
Predicted film cooling near flush slots—Comparison with experiment. D. E. Metzger, J. H. Carper Jr., and J. M. Warren (JA) 857
Condensed zinc particle size determined by a time discrete sampling apparatus. Donald D. McBride and Pauline M. Sherman (AIAA J) 1058
An invalid equation in the general momentum theory of the actuator disk. Peter M. Goorjian (AIAA J, TN) 543

Combustion in Gases

An analytical model for nitric oxide formation in a gas turbine combustor. Richard Roberts, Leonard D. Aceto, Reiner Kollrack, Donald P. Teixeira, and John M. Bonnell (AIAA J) 820
Dynamic response of a plane-symmetrical exothermic reaction center. J. W. Meyer and A. K. Oppenheim (AIAA J) 1509
Criteria for electrically heated temperature probes in flames. Irvin M. Miller and David R. Schryer (AIAA J, TN) 111
Laminar flamesheet with hypersonic viscous interaction. J. W. Ellinwood and H. Mirels (AIAA J, TN) 830

Combustion in Heterogeneous Media

Boron particle nonequilibrium effects in combustor ducted flows. L. Douglas Smoot and Gregory S. Anderson (AIAA J, SYN) 857
Pulsed T-Burner testing of combustion dynamics of aluminized solid propellants. E. W. Price, H. B. Mathes, O. H. Madden, and B. G. Brown (A/A, April*) 65
*See Note on page 3
Barrier film cooling study. Kurt Berman and S. J. Andrysiak (JSR) 152
Development and application of a comprehensive analysis of liquid-rocket combustion. R. D. Sutton, W. S. Hines, and L. P. Combs (AIAA J) 194
Effect of external radiation on the burning rates of solid propellants. Ralph L. Coates and Solim Kwak (JSR) 742
Ignition and combustion of boron in O₂/inert atmospheres. G. Mohan and F. A. William (AIAA J) 776