

LV/M Dynamics and Control

- Full control of solid propellant rockets by secondary injection. I. Zeierman and Y. Manheimer-Timnat (JSR, SYN) 161
 Computerized optimal control system design for boost vehicles. Wolfgang Trautwein and John M. Livingston (JSR) 227
 Perturbation methods in atmospheric flight mechanics. Peter H. Zipfel (AIAA J) 1247
 A universal three-angle basis for rotational kinematic analysis, simulation and control. James Nohl Churchyard (JSR, ERR) 480

LV/M Dynamics, Uncontrolled

- Evaluation of aerodynamic derivatives from a magnetic balance system. Boray S. Raghunath and Hermon M. Parker (AIAA J, SYN) 897
 Experimental correlation between the flow and Magnus characteristics of a spinning ogive-nose cylinder. James M. Martin and Charles W. Ingram (AIAA J, SYN) 901
 Verification of ground test data by instrumented flight test of an artillery shell. Stanley D. Kahn, Vural Oskay and John Whiteside (JA) 143
 Experimental determination of asymmetry-induced trim angles of attack. Edward L. Clark Jr. and Albert E. Hodapp Jr. (JSR) 322
 A method for obtaining aerodynamic coefficients from yawsonde and radar data. Robert H. Whyte and William H. Mermagen (JSR) 384
 Nonplanar tests using the wind-tunnel free-flight technique. Peter Jaffe (JSR) 435
 A proposed entry vehicle dynamic model. A. A. Kirsch (JSR) 767
 Synthesis of shuttle vehicle damping using substructure test results. Daniel D. Kana and Stephen Huzar (JSR) 790
 Angular momentum and the aircraft-store separation problem. P. Daniels and T. A. Clare (JA, EN) 511
 Exact hydroelastic solution for an ideal fluid in a hemispherical container. Robert N. Coppolino (JSR, EN) 612
 Subharmonic behavior of a slightly asymmetric missile. Charles H. Murphy (AIAA J, TN) 884
 Comment on "Wind-tunnel Magnus testing of a canted fin or self-rotating configuration." F. J. Regan (AIAA J, TC) 413
 —Reply by author to F. J. Regan. Anders S. Platou (AIAA J, TC) 415

LV/M Fabrication

LV/M Flight Testing

- Verification of ground test data by instrumented flight test of an artillery shell. Stanley D. Kahn, Vural Oskay, and John Whiteside (JA) 143
 A proposed entry vehicle dynamic model. A. A. Kirsch (JSR) 767

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

- Experimental study of the effects of low Bond number sloshing on thermal stratification. Robert J. Krane and Leroy A. Holmes (AIAA J, SYN) 1219
 Vehicle-scale investigation of a fluorine jet-pump liquid hydrogen tank pressurization system. E. C. Cady and D. W. Kendle (JSR) 735
 Analysis of gas flow through a multilayer insulation system. J. T. Lin (AIAA J) 995
 Stresses in anisotropic nonhomogeneous cylinders. Manoranjan Maiti (AIAA J, TN) 1326

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

- Material injection alleviation during the RAM C-III flight. Lyle C. Schroeder and Norman D. Akey (JSR) 170
 Optimality of proportional navigation. Eliezer Kreindler (AIAA J, TN) 878

LV/M Gust Loading and Wind Shear

- Elastic launch vehicle response to sinusoidal gusts. Lars E. Ericsson, J. Peter Reding, and Rolf A. Guenther (JSR) 244
 Nonstationary ascent wind analysis. L. J. Howell, B. J. Kuchta, and R. E. Barnes (JSR) 755
 Relative magnitudes of stresses caused by static and dynamic launch vehicle loads. Lars E. Ericsson, J. Peter Reding, and Rolf A. Guenther (JSR, EN) 276

LV/M Mission Studies and Economics

- Optimum stage weight distribution of multistage rockets. James A. Martin (AIAA J, TC) 255

LV/M Propulsion System Integration

LV/M Simulation

- Solution of highly constrained optimal control problems using nonlinear programming. Richard G. Brusch and Robert H. Schappelle (AIAA J, SYN) 135

- Support wire disturbances in near viscous wakes of slender supersonic bodies. Kenneth A. Mirly and B. P. Selberg (JSR, EN) 474
 Determination of rocket ignition induced silo transient pressures using an expansion tube. Michael J. Wayte and Fredric A. Gruenich (JSR, EN) 602

LV/M Structural Design (including loads)

- Computerized optimal control system design for boost vehicles. Wolfgang Trautwein and John M. Livingston (JSR) 227
 Stresses in anisotropic nonhomogeneous cylinders. Manoranjan Maiti (AIAA J, TN) 1326

LV/M Subsystem Design

- Calculation of forces on stores in the vicinity of aircraft. Hyman Serbin (JA, EN) 123

LV/M System and Component Ground Testing

- Laser activated, model surface recession compensator system for testing ablative materials. Ronald A. Williamson, W. A. Rinehart, and Ronald R. Williams (JSR, EN) 684

LV/M Trajectories

- Solution of highly constrained optimal control problems using nonlinear programming. Richard G. Brusch and Robert H. Schappelle (AIAA J, SYN) 135
 Minimum fuel rocket maneuvers in horizontal flight. N. X. Vinh (AIAA J) 165
 A method for obtaining aerodynamic coefficients from yawsonde and radar data. Robert H. Whyte and William H. Mermagen (JSR) 384
 Integrals of the motion for optimal trajectories in atmospheric flight. Nguyen X. Vinh (AIAA J) 700
 A crude-search Davidon-type technique with application to shuttle optimization. William F. Powers (JSR) 710
 An application of Kalman techniques to aircraft and missile radar tracking. G. T. Aldrich and W. B. Krabill (AIAA J) 932
 A method of numerical integration for trajectories with variational equations. W. H. Goodyear (AIAA J) 1732
 Optimum stage weight distribution of multistage rockets. James A. Martin (AIAA J, TC) 255

Launch Vehicle Systems (including Ground Support)

- New space transportation systems. J. Preston Layton and Jerry Grey (A/A, February) 12
 Advanced technology and the space shuttle. Eugene S. Love (von Karman Lecture-A/A, February) 30
 Short guide to Titan III launch vehicles. Gerald W. Driggers (A/A, February) 68
 Flow areas for series-parallel compartment venting to satisfy pressure differential requirements. Cecil E. Kirby and George W. Ivy (JSR, EN) 350

Missile Systems

- A space and missile test center of the future. Louis Kraff Jr. (A/A, June) 64
 Optimal stochastic guidance laws for tactical missiles. John J. Deyst Jr. and Charles F. Price (JSR) 301
 Direct statistical analysis of nonlinear systems: CADET. A. Gelb and R. S. Warren (AIAA J) 689
 Reachable sets analysis—An efficient technique for performing missile/sensor tradeoff studies. David M. Salmon and Walter Heine (AIAA J) 927
 Mass properties of sphere-cone entry vehicles. William J. Bootle (JSR, EN) 815

Sounding Rocket Systems

- A fluidic sounding rocket motor ignition system. V. P. Marchese, E. L. Rakowsky, and L. J. Bement (JSR) 731

Tracking Systems

- Optimal stochastic guidance laws for tactical missiles. John J. Deyst Jr. and Charles F. Price (JSR) 301

MARINE TECHNOLOGY

Marine Electric Power Systems

Marine Hydrodynamics, Vessel and Control Surface

- Reflections on designing advanced marine vehicles. Robert A. Frosch (A/A, January) 50
 Bottom depth effects on regular surface waves due to a submerged

- Rankine body with attached vertical column. Peter Van Dyke (JH) 78
- The NATO patrol missile hydrofoil (PHM). Karl M. Duff (JH) 97
- Nonlinear coupling of pitch and roll modes in ship motions. Ali H. Nayfeh, Dean T. Mook, and Larry R. Marshall (JH) 145
- Explanation of forces on a surface piercing strut after ventilation. R. C. McGregor, A. J. Wright, and P. D. Swales (JH, EN) 132

Marine Materials, Corrosion/Erosion

- Impressed-current cathodic protection of aluminum-hulled craft. Boyce E. Miller and Harvey P. Hack (JH) 108

Marine Mooring Systems and Cable Mechanics

- The lift force due to von Kármán's vortex wake. D. W. Sallet (JH) 161

Marine Propulsion Systems Integration

- Thrust of an air-augmented waterjet. Robert G. Amos, Glennon Maples, and David F. Dyer (JH) 64
- Calculation of inlet flows applied to ducted propellers. R. J. Weetman and D. E. Cromack (JH) 153

Marine Vessel Design (including Loads)

- A survey of analytical methods for dynamic simulation of cable-body systems. Young-il Choo and Mario J. Casarella (JH, SA) 137
- Man-computer graphics in preliminary ship design. Robert S. Johnson, Arthur L. Fuller, James A. Claffey, Fritz R. Bjorklund, and Bernard M. Thompson. (JH) 11
- Canadian advances in surface-piercing hydrofoils. N. E. Jeffrey and M. C. Eames (JH) 85
- The NATO patrol missile hydrofoil (PHM). Karl M. Duff (JH) 97
- Ram wing surface effect boat. Roger W. Gallington (JH) 118
- Geometrical characteristics of flat-faced bodies of revolution. Paul S. Granville (JH) 166
- Experimental stress analysis of propeller blades utilizing photoelastic coating techniques. Hideya Tsushima and Joseph C. Conway (JH, EN) 41
- Comment on "Added mass of a circular cylinder in contact with a rigid boundary." Theodore R. Goodman (JH, TC) 96

Marine Vessel Systems, Submerged

- Potential flow about body in finite stream. K. S. Satija (JH) 17

Marine Vessel Systems, Surface

- Low-water plane multihull ship principles, status, and plans for naval development. R. Leopold, R. S. Johnson, J. B. Hadler, and P. Genalis (JH, SA) 49
- Seakeeping characteristics of small-waterplane-area-twin-hull ships. Nils Salvesen (JH) 3
- Static and dynamic analysis of mooring lines. Pin Yu Chang and Walter D. Pilkey (JH) 29
- Reflections on designing advanced marine vehicles. Robert A. Frosch (A/A, January) 50
- Canadian advances in surface-piercing hydrofoils. N. E. Jeffrey and M. C. Eames (JH) 85
- The NATO patrol missile hydrofoil (PHM). Karl M. Duff (JH) 97
- Impressed-current cathodic protection of aluminum-hulled craft. Boyce E. Miller and Harvey P. Hack (JH) 108
- Ram wing surface effect boat. Roger W. Gallington (JH) 118
- Simplified tradeoff studies of large hydrofoil ships. J. R. Greco (JH, EN) 43

Marine Vessel Trajectories, Stability, and Control

- A survey of analytical methods for dynamic simulation of cable-body systems. Young-il Choo and Mario J. Casarella (JH, SA) 137
- Reflections on designing advanced marine vehicles. Robert A. Frosch (A/A, January) 50
- Effect of sweep angle and drag on the flutter speed of hydrofoils. J. Mahig (JH) 104
- An analysis of desired maneuvering characteristics of large Arctic SEV'S. E. N. Brooks Jr. and W. Zeitfuss Jr. (JH) 112

Marine Vessel Vibration

- Effect of sweep angle and drag on the flutter speed of hydrofoils. J. Mahig (JH) 104

Oceanography, Physical and Biological

- Microwave emission characteristics of oil slicks. A. T. Edgerton, D. Meeks, and D. Williams (JH) 35

Propulsion System Hydrodynamics

- Dynamic response of marine propellers to nonuniform flowfields. Hideya Tsushima and Maurice Sevik (JH) 71

- Effects of polyethylene-oxide solutions on the performance of a small propeller. James V. Sanders, Lee H. Henderson, and Robin J. White (JH) 124
- Calculation of inlet flows applied to ducted propellers. R. J. Weetman and D. E. Cromack (JH) 153
- Analysis of gas bubble-liquid coflow systems. Robert L. Stoy and Peter P. Ostrowski (JH, EN) 46

Sea Pollution Containment and Control

- Microwave emission characteristics of oil slicks. A. T. Edgerton, D. Meeks, and D. Williams (JH) 35

Undersea Acoustics

- A survey of analytical methods for dynamic simulation of cable-body systems. Young-il Choo and Mario J. Casarella (JH, SA) 137
- Effects of polyethylene-oxide solutions on the performance of a small propeller. James V. Sanders, Lee H. Henderson, and Robin J. White (JH) 124
- Ballistic range investigation of sonic-boom overpressures in water. Peter F. Intrieri and Gerald N. Malcolm (AIAA J) 510

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

- Integral rocket/ramjet for tactical missiles. John A. Belding and William B. Coley (A/A, December) 20
- Simulation of velocity profiles by shaped gauze screens. J. L. Livesey and E. M. Laws (AIAA J) 184
- A theoretical and experimental study of a jet stretcher system. R. C. Bauer, E. H. Matkins, R. L. Barebo, and W. C. Armstrong (JSR) 395
- Gas path analysis applied to turbine engine condition monitoring. Louis A. Urban (JA) 400
- An altitude test facility for large turbofan engines. Peter F. Ashwood (JA) 468
- Measurement of emissions from jet engines in altitude test cells. J. Lloyd Grissom (JA) 475
- Engine exhaust emission levels. A. K. Forney (JA) 716
- Experimental study on optimization parameters of a supersonic jet ejector thrust augmentor. Dah Yu Cheng, Peter Wang, and Dean M. Chisel (JA, EN) 569
- Analytical method for combining the interaction of inlet distortion and turbulence. R. L. Panton (JA, ERR) 192

Airbreathing Propulsion, Hypersonic

- An analytical and experimental study of supersonic combustion of hydrogen in vitiated air stream. Marshall C. Burrows and Anatole P. Kurkov (AIAA J, SYN) 1217
- Liquid jet injection into a supersonic flow. Edward A. Kush Jr. and Joseph A. Schetz (AIAA J, SYN) 1223
- Hypersonic flows in large-scale inlet models. William R. Seebaugh (JA) 38
- Prediction of precombustion wall pressure distributions in scramjet engines. P. J. Waltup and F. S. Billig (JSR, EN) 620
- Supersonic combustion aid for liquid and gaseous fuels. J. J. Isaac and R. A. Cookson (AIAA J, TN) 1036
- An analytical study of hypersonic inlets in free molecule flow. Max Kinslow (AIAA J, TN) 1205

Airbreathing Propulsion, Subsonic and Supersonic

- Method for increasing wind tunnel Mach number for large-scale inlet testing. Eldon A. Latham and Norman E. Sorensen (JA, SYN) 577
- Approximate analysis of containment/deflection ring responses to engine rotor fragment impact. Richard W.-H. Wu and Emmett A. Witmer (JA) 28
- Simulation of velocity profiles by shaped gauze screens. J. L. Livesey and E. M. Laws (AIAA J) 184
- Prediction of inlet duct overpressures resulting from engine surge. Franklin L. Marshall (JA) 274
- Advanced supersonic inlet technology. Norman E. Sorensen, Donald B. Smeltzer, and Eldon A. Latham (JA) 278