

Structural Dynamic Analysis

- Free vibrations of rocket motor casings under internal pressure. S. K. Radhamohan, Y. V. K. Sadasiva Rao, and B. Prasad (SYN) 513
- Response of a dual-spin spacecraft with flexible appendages via modal analysis. L. Meirovitch and A. L. Hale (EN) 445
- Stresses in towed cables during re-entry. Joseph Brown 524
- Substructure energy method for prediction of space shuttle modal damping. Daniel D. Kana and James F. Unruh 294
- Transient rotordynamic analysis for the space-shuttle main engine high-pressure oxygen turbopump. Dara W. Childs (SYN) 3
- Vibration and flutter analysis of reusable surface insulation panels. Earl H. Dowell 44

Structural Stability Analysis

- Evaluation of boron/aluminum tubes in compression. A. C. Knoell (EN) 635
- Stability of stable areas. R.B. Raisler and J. C. Fatz 761

Structural Static Analysis

- Analysis of thick cylinders with internal semicircular grooves subjected to internal pressure. Mihir Kumar Jana and G. Venkateswara Rao (EN) 568

THERMOPHYSICS AND THERMOCHEMISTRY**Heat Conduction**

- Errors in aerodynamic heat transfer measurements when using phase change coating techniques. John A. Segletes (EN) 124
- Role of thermal contact resistance in pyrotechnic ignition. Valentinas Sernas and Arthur J. Murphy (EN) 782
- Solidification and melting of materials subject to convection and radiation. Benjamin T. F. Chung and L. T. Yeh 329
- Thermal Conductivity of comets. G.N. Kumar, M. S. Khader, and R. I. Vachon 519
- Temperature distribution in sublimation-cooled coated cylinder in convective and radiative environments. K.N. Shukla (EN) 788

Material Ablation

- Ablation of graphite in high-speed air streams. John A. Segletes (EN) 251
- Ablation of graphite in high-speed air streams. John A. Segletes (ERR) 576
- Ablative thermal protection for space tug multipass, aerobraking entry. Eric L. Strauss 346
- Development of an aeroballistic range capability for testing re-entry materials. G. D. Norfleet, R.E. Hendrix, R. M. Raper, and E. E. Callens Jr. 302
- Erosion of polyurethane insulation. S. Kraus 209
- Hot surface -- cold gas boundary layer with heterogeneous combustion. Leon M. Gilbert (EN) 184
- Kinetic reaction rates for consumption of pyrolytic graphite by combustion gases. J. W. Schaefer, H. Tong, and R. J. Bedard 552
- Response of charring ablators to severe aerodynamic and erosion environments. R. M. Clever and V.E. Denny 558
- Simplified computer model for predicting the ablation of teflon. Ronald B. Pope 83
- Solid motor aft closure insulation erosion. E. Stampfl and E.M. Landsbaum 599

Radiation and Radiative Heat Transfer

- Performance of thermal protection systems in a Mach 7 environment. Herman L. Bohon, J. Wayne Sawyer, L. Roane Hunt, and Irving Weinstein 744
- Solidification and melting of materials subject to convection and radiation. Benjamin T. F. Chung and L. T. Yeh 329
- Thermal simulation of large rotating solar arrays. Werner Lorenz 342

Thermal Modeling and Experimental Thermal Simulation

- Ablative thermal protection for space tug multipass, aerobraking entry. Eric L. Strauss 346
- Comparison of the theoretical solar radiation effects and the observed accelerations of the PAGEOS satellite. William B. Patterson and Kenneth E. Kissell 539
- Erosion of polyurethane insulation. S. Kraus 209
- Errors in aerodynamic heat transfer measurements when using phase change coating techniques. John A. Segletes (EN) 124

- Flooding and dry-up limits of circumferential heat pipe grooves. K. D. Gier and D. K. Edwards (SYN) 517
- Heat pipe thermal control set point shift. Harris B. McKee (EN) 191
- Simplified computer model for predicting the ablation of teflon. Ronald B. Pope 83
- Thermal conductivity of comets. G. N. Kumar, M. S. Khader, and R. I. Vachon 519
- Thermal simulation of large rotation solar arrays. Werner Lorenz 342

Thermal Surface Properties

- Desorptive transfer: A mechanism of contaminant transfer in spacecraft. H. K. Alan Kan (EN) 62
- Thermal conductivity of comets. G. N. Kumar, M. S. Khader, and R.I. Vachon 519

Thermochemistry and Chemical Kinetics

- Ablation of graphite in high-speed air streams. John A. Segletes (EN) 251
- Ablation of graphite in high-speed air streams. John A. Segletes (ERR) 576
- Analysis of communications blackout for pioneer Venus entry probes. William L. Grose, R. A. Falanga, and Kenneth Sutton 627
- Causes of ionization in rocket exhausts. L. Douglas Smoot 179
- Flight test comparison of two electron attachment techniques. D. T. Hayes, S. B. Herskovitz, J. F. Lennon, and J. L. Poirier (SYN) 515
- Kinetic reaction rates for consumption of pyrolytic graphite by combustion gases. J. W. Schaefer, H. Tong, and R. J. Bedard 552

AUTHORS

- Adams, J.C., Jr.** Calculation of compressible turbulent boundary layers on an infinite yawed airfoil (SYN) 131
- — Low Reynolds number effect on hypersonic lifting body turbulent boundary layers (EN) 126
- — Low Reynolds number effect on hypersonic lifting body turbulent boundary layers. (ERR) 448
- Africano, Alfred** Comment on "Definition of specific impulse." (TC) 576
- Alfriend, Kyle T.** Method for evaluating gravity effects in the testing of nutation dampers 359
- Allkofer, O.C. and Heinrich, W.** Flux of cosmic ray heavy nuclei enters behind low shielding (EN) 119
- Anderson, J.E., Fester, D.A., and Dugan, D.W.** Feasibility study of developing toroidal tanks for a spinning spacecraft 334
- Andrew, G.M.** Control and Guidance systems with automatic aperiodic sampling (EN) 59
- Bainum, P.M. and Evans, K.S.** Three-dimensional motion and stability of two rotating cable-connected bodies 242
- Banerjee, A.K. and Coppey, J.M.** Post-ejection impacts of the space shuttle solid rocket booster nose cap (EN) 632
- Batson, James L.** (see Bertin, John J)
- Beavers, A.N., Jr.** (see Durboraw, I.N., III)
- Bedard, R.J.** (see Schaefer, J.W.)
- Bennett, M.D.** Velocity of bodies powered by rapidly discharged cold-gas thrusters (EN) 254
- Bernstein, R.L.** (see Weiss, R.)
- Bertin, John J., Graumann, Bruce W., and Goodrich, Winston D.** High velocity and real-gas effects on weak two-dimensional shock-interaction patterns. 155
- Bertin, John J. and Batson, James L.** Experimentally determined rocket-exhaust flowfield in a constrictive tube launcher. 711
- Besonis, A.J.** (see Weiss R.)
- Beyers, Martin E.** Technique for smoothing free-flight oscillation data (EN) 318
- Bohon, Herman L., Sawyer, J. Wayne, Hunt, L. Roane, and Weinstein, Irving** Performance of thermal protection systems in a Mach 7 environment 744
- Bootle, W.J.** Low-altitude roll behavior of entry vehicles with mass asymmetries (EN) 574
- Born, G.H. and Mohan, S.N.** Orbit determination for mariner 9 using ratio and optical data (EN) 439
- Bose, Tarit K.** (EN, see Krishnan, S.)
- Breakwell, John V.** (see Salzwedel, Horst)
- Brewer, M.J. and Soubirou, J.** Evaluation of the ESRO IV satellite Horizon Crossing Indicator performance 235