

INDEX

A

- Abex Corporation, 375
- Active Cavity Irradiance Monitor II, ACRIM II, 103
- Advanced Communications Technology Satellite, ACTS, 17, 18, 47, 96, 254
- Advanced Digital Engine Control System, ADECS, 213
- Advanced Digital Synthetic Aperture Radar (SAR) Processor, ADSP, 257
- Advanced Fighter Technology Integration, AFTI, 198
- Advanced short takeoff and vertical landing, ASTOVL, 181, 210
- Advanced technology blades, SV-15/ATB program, 210
- Advanced Transport Operating System, ATOPS, 229
- Advanced Very High Resolution Radiometer, AVHRR, 35
- Aerojet General Corp., 563, 566, 569
- Aeronautics, Balloons, and Sounding Rockets, AB&SR, 312
- Aero-Space Technology, AST, 467
- Aetna Life and Casualty, Inc., 52, 53
- Agency for International Development, 16
- Agriculture, U.S. Department of, 13, 16–17, 392; and AgRISTARS, 16–17, 81
- Aiken, William S., Jr., 186, 187
- Air Force, U.S., 17, 35, 60, 62, 70, 198, 200, 204, 214, 217, 224–225, 227, 237, 252, 306; and Air Force Satellite Control Facility, Sunnyvale, California, 305
- Air Products & Chemicals, Inc., 551, 554, 557, 560, 563, 566, 570
- Airborne Windshear Detection and Avoidance Program, 234
- Aircraft Energy Efficiency program, ACEE, 181, 189, 190–197, 198
- Alabama, University of, 360, 572, 575, 579, 582, 590, 592, 595, 598
- Alaska, 51, 55, 57; and Fairbanks, 306, 307, 342; and University of, 594, 596, 600
- Allen, H. Julian, 390
- Allen, Lew, Jr., 394
- Aller, Robert O., 301
- AlliedSignal Aerospace Co., 568
- Allison Corp., 210
- American Institute of Aeronautics and Astronautics, 572, 575, 578, 581, 584, 587, 590, 593, 596, 599
- American Satellite Company, ASC, 50, 74, 128
- American Society of Mechanical Engineers, 237
- American Telephone and Telegraph, AT&T, 50, 51, 560
- Ames, Joseph S., 391
- Ames Research Center, 181, 182, 186, 190, 202, 203, 205, 208, 220, 222, 224, 289, 321, 383, 389, 390–391, 392, 404, 407, 414–426, 428, 432–434, 466, 472–482, 487–488, 492–493, 513–516, 538–539; and Numerical Aerodynamic Simulation Facility, 183
- Anelex Corp., 564
- Anik, 17, 51, 54, 64–65, 66, 67, 72, 159–161; and Telesat Canada Corporation, 17, 51, 64, 159–161
- Announcement of Opportunity, 15, 25
- Antigua, 306
- Apollo program, 211, 397, 402; and Apollo-Soyuz Test Project, 28
- Applications Explorer Mission, AEM, 14, 16
- Applications Technology Satellites, ATS, 12, 13, 17,
- Arabsat, 17, 65, 66, 67, 73, 162
- Argee Corp., 567
- ARGOS, 48
- Ariane, 54, 67
- Arizona, University of, 571, 574, 577, 580, 584, 586, 589, 592, 595, 598
- Arizona State University, 582, 591
- Army, U.S., 14, 205, 208, 392, 396, 401
- Arnold, Ray, 19
- Ascension Island, 305, 307, 342
- Asia, 57
- Asia Satellite, AsiaSat, 55
- Assembly Concept for Construction of Erectable Space Structures, ACCESS, 184, 243, 248, 253
- Association of University Research and Astronomy, 578, 581, 583, 586, 589, 592, 595, 598
- Atlantic Missile Range, 396
- Atlantic Ocean, 39, 57, 63
- Atlantis*, 138, 163, 166
- Atlas, 35, 37; and Atlas-Centaur, 58, 148–156
- Atomic Energy Commission, 180

- Auburn University, 369
 Aussat, 17, 66–67, 74, 162–163; and Aussat Proprietary, Ltd., 66, 67
 Australia, 57, 66, 74, 312; and Alice Springs, 312; and Canberra, 300, 306, 307, 308, 311, 320, 343; and Orroral Valley, 306, 347; and Parkes, 311, 312; and Tidbinbilla, 311, 312, 343; and Yarragardee, 305, 306, 349
 Auter, Harry, 402
- B**
- Bahamas, Grand, 306
 Balch, Jackson M., 401
 Ball Corp., 551, 553, 554, 557, 560, 563, 566, 569
 Ballhaus, William F., Jr., 187, 390
 Bamsi, Inc., 561, 563, 566, 569
 Battelle Columbus Laboratories, 369, 577
 Battelle Memorial Institute, 571, 574, 581, 583, 587, 590, 593, 596, 600
 Beattie, Donald A., 186
 Bechtel National, Inc., 557
 Beeler, D.E., 391
 Beggs, James M., 355, 358, 388
 Bell, 209
 Bendix Corporation, Allied, 540, 550, 553, 556, 559, 562, 565
 Benson, Robert, 20
 Bermuda, 305, 306, 307, 314, 342
 Bikle, Paul F., 391
 Boeing Aerospace Corporation, Services International, 196, 198, 201, 203, 209, 212, 229, 231, 238, 373, 540, 550, 553, 554, 556, 557, 559, 560, 562, 565, 566, 568
 Botswana, Africa, 305, 344; and Botswana National Museum, 344
 Bowles, Roland, 235
 Boyd, John, 391
 Brazil, 17
 British Aerospace, 210
 Bryant, Frederick B., 301
 Bulgaria, 49
 Buckhorn, California, 305, 307
 Bush, George, 228
- C**
- California, University of, at Berkeley, 571, 574, 577, 580, 583, 586, 589, 592, 595, 598; and at Los Angeles, 572, 575, 578, 580, 584, 587, 590, 593, 596, 599; and at San Diego, 571, 574, 577, 580, 583, 586, 589, 592, 595, 598
 California Institute of Technology, 394, 571, 574, 577, 580, 583, 586, 589, 592, 595, 598
 California State University at Chico, 573
 Calio, Anthony J., 18, 47
 Cape Canaveral, 306, 320, 395
 Caribbean, 14, 57
 Carruthers, John, 18
 Carter, Jimmy, 16
 Case Western Reserve University, 369, 572, 575, 578, 581, 584, 587, 590, 593, 596, 598
 Centaur, 400; and Atlas-Centaur, 58, 148–156
 Centers for the Commercial Development of Space, 360
 Central America, 39
 Centre Nationale d'Études Spatiales, CNES, 34
Challenger, 101, 144, 160, 165, 166, 167, 247, 290, 319; and *Challenger* accident, 3, 32, 235, 242, 247, 251, 252, 290, 291, 307, 307, 313, 319, 331, 350, 361, 389, 497
 Charles Stark Draper Laboratory, 571, 574, 577, 580, 583, 586, 589, 592, 595, 598
 Charlesworth, Charles E., 395
 Cheney, Richard, 228
 Chicago, University of, 571, 574, 577, 580, 583, 586, 589, 592, 595, 599
 Chile, University of, 571, 574, 577, 580, 583, 586, 590, 593, 596, 599
 Civil Service Reform Act of 1978, 464
 Clark, John F., 393
 Clarks, Henry J., 355, 356
 Clarkson University, 369
 Clean Air Act, Amendments, 15
 Clear Lake, Texas, 394
 Cleveland Electric Illuminating, 555
 Cleveland Hopkins International Airport, 399
 Cleveland State University, 600
 Cohen, Aaron, 395
 Colladay, Raymond S., 186, 187, 224, 225
 Collier, Robert J., Trophy, 4, 182, 191, 398, 400; and National Aeronautic Association, 4
 Colorado, University of, 369, 372, 572, 575, 577, 580, 584, 586, 589, 592, 595, 598
Columbia, 22, 138, 140, 160, 290
 Columbia University, 572, 575, 578, 581, 585, 587, 590, 593, 596, 599
Commerce Business Daily, 504
 Commerce, U.S. Department of, 13, 32
 Commercial Use of Space, 1984 National Policy, 355
 Commonwealth Scientific and Industrial Research Organization, Australia, 311
 Communications Satellite Corporation, Comsat, 47, 52, 53, 58
 Communications Technology Satellites, CTS, 12
 Compton, Dale L., 390
 Computer Sciences Corporation, 540, 550, 553, 556, 559, 562, 565, 568

- Comstar, 17, 50, 72, 128; and Comsat General Corporation, 50
- Congress, 11, 12, 15, 16, 31, 32, 46, 47, 175, 176, 188, 189, 226, 228, 357, 358, 361, 396, 497, 498
- Construction of Facilities, Coff, 498, 516
- Continental Construction Corp., 569
- Continental Telecom, Inc., Contel, 50, 314, 562, 565, 568
- Continental Telephone, 314
- Control Data Corporation, 551, 554, 557, 560, 564, 566
- Cooper, Robert, 393
- Cornell University, 572, 575, 578, 581, 584, 587, 590, 593, 596, 599
- Cortright, Edgar M., 397
- COSMOS, 48
- COSPAS, 17, 37, 48, 49
- Costa, S. Richard, 302
- Cray Research Inc., 560, 569
- Cryogenic Limb Array Etalon Spectrometer, CLAES, 102
- Culbertson, Philip E., 357
- D**
- Data Capture Facility, 321
- Data Collection System, 34
- Debus, Kurt H., 396
- Deep Space Network, DSN, 5, 299, 304, 307, 308, 309, 311, 312, 313, 325, 336, 337, 343, 345, 346, 347, 394
- Deere, John, & Co., 370
- Defense Systems, Inc., 370
- Defense, U.S. Department of, DOD, 61, 70, 73, 176, 189, 192, 204, 205, 207, 208, 210, 213, 221, 224, 225, 226, 227, 228, 247, 299, 305, 348; and Defense Advanced Research Projects Agency, DARPA, 189, 205, 207, 208, 213, 217, 222, 223, 224, 227; and Defense Space Communications System, DSCS, 63
- De France, Smith J., 390
- Delmarva Peninsula, 402
- Delta, 40, 51, 52, 67, 68
- Denmark, 17, 247
- Denver, Colorado, 235
- Deutsch, George C., 187
- Digital Autonomous Terminal Access Communication, DATAC, 231
- Digital Electronic Engine Control, DEEC, 212
- Digital Equipment Corporation, 552, 554, 557, 560, 564, 566
- Digital fly-by-wire, DFBW, 210, 211, 212, 216
- Discovery*, 106, 128, 129, 130, 141, 157, 158, 161, 162, 165
- District of Columbia, Washington, D.C., 501
- Donlan, Charles J., 397
- Draper Laboratory, 211
- Dryden Flight Research Center, 182, 186, 190, 193, 197, 198, 201, 202, 211, 212, 213, 214, 217, 218, 219, 220, 221, 238, 241, 242, 302, 305, 306, 307, 312, 342, 344, 355, 383, 388, 390, 391, 392, 404, 407, 414–426, 435–436, 466, 472–482, 487–488, 492–493, 513–516
- DuPont, 370
- Dynamic Augmentation Experiment, DAE, 246
- E**
- Earth, 5, 12, 16, 22, 26, 29, 30–38, 41, 42, 45, 48, 50, 55, 59, 60, 61, 62, 67, 68, 69, 178, 182, 183, 184, 222, 240, 247, 248, 249, 250, 251, 299, 300, 304, 309, 313, 315, 344, 394, 401, 403
- Earth Data Corporation, 375
- Earth Observation Satellite Company, EOSAT, 16, 42
- Earth Observing System, EOS, 256
- Earth Radiation Budget Experiment, ERBE, 15, 30, 31, 37
- Earth Radiation Budget Satellite, ERBS, 14, 15, 28, 30, 31, 37, 73, 101
- Earth Resources Technology Satellite, ERTS, 3, 13
- Eastern Test Range, Cape Canaveral, 396
- Eaton, Peter T., 356
- ECHO, 345
- Ecuador, Quito, 305, 306
- Edelson, Burton, 19
- Edwards Air Force Base, California, 207, 214, 223, 241, 306, 391, 392
- EG&G Florida, Incorporated, 540, 553, 556, 559, 562, 565, 568
- Ellington Air Force Base, 394
- Elms, James C., 395
- Emergency Locator Transmitter, ELT, 47–49
- Emergency Position Indicating Radio Beacon, EPIRB, 47–49
- Endeavour*, 241
- Energy, U.S. Department of, 180, 250, 400
- Engineering and Economic Research, 570
- England, 69; and Winkfield, 305
- Enterprise*, 211, 241, 392
- Environmental Research Institute, of Michigan, 369, 573, 576, 578
- Estess, Roy S., 402
- Europe, 47, 57
- European Space Agency, ESA, 312, 501, 574, 577, 580, 583, 586

- Evans, L.J., Jr., 357
 Experimental Assembly of Structures in
 Extravehicular Activity, EASE, 184, 243,
 248
 Extravehicular activity, EVA, 249, 258
 Extremely high frequency, EHF, 61
- F
- Fairchild Industries, Inc., 50, 314, 371, 555,
 557, 560, 563, 566, 569
 Feature Identification and Landmark
 Experiment, FILE, 26–27
 Federal Acquisition Regulation, FAR, 502,
 504, 506
 Federal Aviation Administration, FAA, 176,
 189, 192, 210, 229, 234, 235, 238
 Federal Communications Commission, 18, 50
 Federal Financing Bank, U.S. Department of
 Treasury, 314, 331, 332
 Federal Technology Transfer Act of 1986, 359
 Federal Wage System, 467
 Ferrick, Eugene, 302
 Finland, 17, 49
 Fisk, Lennard A., 19
 Fleet Satellite Communications, Fltsatcom, 17,
 60, 72, 154–156
 Fletcher, James C., 388
 Force, Charles T., 301, 302
 Ford, Aerospace, Communications
 Corporation, 59, 62, 67, 540, 550, 553, 556,
 559, 562, 565, 568
 Fort Irwin, California, 306
 Fosque, Hugh S., 301
 France, 17, 34, 37, 48, 57, 247; and Modane,
 195
 Franklin Institute, 576
 Frosch, Robert A., 356, 357, 360, 388
- G
- Gabris, Edward A., 188
 Galapagos Islands, 14
 Galaxy, 51, 52, 55, 67, 73, 131
 Garrett Corporation, 552, 555
 Gemini, Project, 396
 General Dynamics Corp., 197, 198, 210, 212,
 540, 550, 553, 556, 559, 562, 566, 569
 General Electric, GE, 31–32, 191, 195, 196,
 206, 210, 216, 317, 540, 541, 544, 550,
 553, 557, 560, 562, 565, 568
 General Motors, 194, 551
 General Schedule, GS, 464, 465
 General Sciences Corporation, 375
 General Services Administration, GSA, 505,
 506
 Geological Survey, U.S., 13, 46
 George Washington University, 572, 578, 585,
 588, 591, 594, 597, 600
 Georgia Institute of Technology, 573, 576,
 591, 594, 597, 600
 Geosat, 16
 Geostar Corporation, 374
 Geostationary Operational Environmental
 Satellite, GOES, 12, 14, 28, 32, 38, 39, 40,
 41, 72, 116–121
 Germany, 25, 57, 219, 247
 Get Away Special, GAS, 25–26
 Gillam, Isaac T., Ike, IV, 355, 391
 Gilruth, Robert R., 395
 Giotto, 312
 Glennan, T. Keith, 388
 Global Associates, 552
 Global positioning system, GPS, 229
 Global Weather Experiment, 15
 Goddard, Robert H., 393
 Goddard Space Flight Center, 18, 31, 51, 257,
 300, 302, 305, 306, 307, 315, 320, 329,
 346, 383, 389, 392, 393, 403, 404, 407,
 414–426, 428, 437–439, 466, 472–482,
 487–488, 492–493, 513–516, 538–539; and
 Goddard Institute of Space Studies, 392;
 and National Science Space Data Center, 18
 Goett, Harry J., 393
 Goetz, Robert, 395
 Goldstone, California, 306, 307, 308, 309,
 311, 313, 344
 Goodyear Aerospace Corporation, 257
 Graham, William R., 178, 226, 388
 Graves, Randolph A., 187
 Greenbelt, Maryland, 51, 300, 304, 392
 Greenwood, Lawrence, 19
 Griffin, Gerald, 395, 396
 Grumman Aircraft Corporation, 199, 210, 217,
 373, 558, 566, 567, 568, 570
 GTE, 373
 GTI Corporation, 370
 Guam, 50, 306, 307, 346
 Guastafarro, Angelo, 390, 391
 Gulfstream Aerospace Corporation, 194, 196,
 197
- H
- Halley's Comet, 312
 Halogen Occultation Experiment, HALOE, 33,
 86, 102
 Halpern, Richard, 20
 Hamilton Standard, 192, 195
 Hampton, Virginia, 397, 579, 581, 584, 587,
 590, 593, 596, 599
 Harrier, aircraft, 205

- Harris Corporation, 314, 563, 567
Harris, Leonard A., 187
Hart, Terry, 247
Harvard University, 571, 574, 577, 580, 584, 587, 589, 594, 596, 599
Hawaii, 39, 50, 51, 55, 57, 306, 571
Hawaii, University of, 574, 578, 580, 583, 587, 589, 592, 596, 599
Hearth, Donald P., 393, 397
Heflex Bioengineering Test, 23
Hercules Corporation, 375
High Angle of Attack Research Vehicle, HARV, 220
High Resolution Doppler Imager, HRDI, 102
Highly Integrated Digital Electronic Control, HIDEC, 213
Highly Maneuverable Aircraft Technology, HiMAT, 214, 215, 216, 217, 286
Hinners, Noel W., 393
Hlass, Jerry I., 401
Holcomb, Lee B., 187
Honeywell Corporation, Inc., 371, 551, 554, 557, 558, 560, 561, 564
Hornstein, Robert M., 302
Houston, Texas, 394
Houston, University of, 369, 593, 594, 597, 599, 600
Howard University, 585, 591
Hubble Space Telescope, 321, 401
Hughes, Communications, Aircraft Corporation, 51, 53, 55, 61, 62, 66, 67, 68, 540, 550, 553, 557, 560
Huntsville, Alabama, 400
- I
- Ice accretion code, Lewis Research Center, LEWICE, 238
Icing Research Tunnel, IRT, 237, 238
Illinois, University of, Urbana, 573, 588, 590, 593, 597, 600
Improved Stratospheric and Mesospheric Sounder, ISAMS, 102
INCO, 370
Indonesia, 17, 51
Induced Environment Contamination Monitor, IECM, 245, 289
Industrial Applications Centers, IACs, 359
Industrial Guest Investigator (IGI) Agreement, 360, 361
Inertial Upper Stage, IUS, 317, 318
Informatics General Corporation, 554, 558, 560, 563
Insat, 17, 67–68, 164–165
Institute for Technology Development, ITD, 369, 375
Instrumentation Technology Associates, 373
Interior, U.S. Department of, 13, 16, 398
International Business Machines, IBM, 52, 53, 211, 540, 550, 553, 556, 559, 562, 565, 568
International Fuel Cells Corp., 561
International Telecommunications Satellite Organization, Intelsat, 13, 50, 56–60, 68, 72, 145–153
International Telephone and Telegraph, ITT, 551
Invitation for Bid, IFB, 504
Iowa, University of, 571, 574, 578, 580, 584, 587, 590, 593, 595, 598
Ireland, 247
Italy, 57
- J
- Jacksonville, Florida, 396
Japan, 47, 57
Jet Propulsion Laboratory, JPL, 5, 246, 257, 300, 302, 303, 307, 311, 313, 320, 326, 328, 383, 389, 394, 404, 407, 414–426, 428, 440–441, 499, 526, 538–539
Johannes, Robert P., 391
Johns Hopkins University, 70, 391, 573, 577, 584, 586, 590, 593, 596, 599
Johnson, Harry W., 356
Johnson, Lyndon B., 396
Johnson Space Center/Manned Spacecraft Center, 197, 306, 315, 320, 389, 394, 395, 398, 404, 407, 414–426, 428, 442–444, 472, 501, 513–516, 538–539; and Johnson Mission Control Center, 306
Joint Endeavor Agreements, JEA, 360, 361, 370, 371, 372, 373
Jones, Robert T., 202
Jupiter, 3, 5, 309, 311
- K
- Kansas, University of, 576, 579, 582
Kayten, Gerald G., 187
Kennedy Space Center, 51, 223, 242, 290, 291, 306, 314, 347, 350, 351, 383, 389, 395, 396, 397, 404, 407, 414–426, 428, 444–446, 463, 472–482, 487–488, 492–493, 513–516, 538–539
Kentron International, Inc., 551, 554, 557
Kerrebrock, Jack, 186
Keyworth, G.A., 177
Kimball, Harold G., 301, 302
Klate Holt Co., 555, 558, 567, 569
Klineberg, John M., 399
Kraft, Christopher C., Jr., 395
Kramer, James, 186

- Kreiger, Robert, 402
 Krier, Gary E., 356
 Krings, John, 227
 Krug International Corporation, 570
 Kutler, Paul, 187
 Kutyna, Donald J., Major General, 224
- L
- Lamberth, Horace, 396
 Landsat, 3, 12, 13, 16, 32, 33, 42, 43, 44, 79, 122–124, 312, 327, 329, 340
 Langley, Samuel Pierpont, 397
 Langley Research Center, 183, 184, 185, 190, 197, 198, 200, 201, 204, 205, 208, 209, 220, 221, 222, 223, 224, 229, 231, 232, 234, 235, 237, 242, 247, 248, 250, 251, 290, 291, 296, 383, 389, 392, 397, 398, 403, 404, 407, 414–426, 428, 447–449, 472–482, 487–488, 492–493, 513–516, 538–539; and Langley Memorial Aeronautical Laboratory, 397, 398; and National Transonic Facility, 183
 Large-scale Advanced Propfan, LAP, 195, 196
 Laser Geodynamics Satellite, LAGEOS, 14
 La Soufriere, volcano, 14
 Leasat/Syncom, 17, 61, 62, 73, 157–158
 Lee, Thomas J., 400
 Lemkey, Frank, 20
 Levine, Jack, 187
 Lewis, George W., 399
 Lewis Research Center, 4, 46, 47, 58, 186, 190, 191, 192, 193, 194, 195, 196, 220, 221, 224, 237, 238, 383, 389, 399, 400, 404, 407, 414–426, 428, 450–452, 472–482, 487–488, 492–493, 513–516, 538–539; and Glenn Research Center, 58, 237
 Light Detecting and Ranging, LIDAR, 235, 257, 258
 Little, Arthur D., Inc., 371
 Local User Terminal, LUT, 48
 Lockheed Company, Space Operations, Missiles, Engineering, 194, 195, 196, 197, 210, 540, 550, 553, 554, 555, 556, 557, 559, 560, 562, 563, 565, 566, 568, 569
 Long Duration Exposure Facility, LDEF, 243, 246, 247, 248, 296, 398
 Louisiana, New Orleans, 400, 401
 Lovelace, Alan M., 388
 Lovell, Robert, 19
 Low, George M., 388, 395
 LTV Aerospace & Defense Co., 560, 564, 569
 Lubarsky, Bernard, 399
 Lucas, William R., 400
 Lunar Roving Vehicle, 401
- Lundin, Bruce T., 399
 Luxenberg, Barbara A., 356
 Lyman, Peter T., 394
- M
- Madrid, Spain, 300, 307, 308, 313, 320, 346
 Magnetic Field Satellite, Magsat, 14, 16, 42, 44, 46, 72, 125–127
 Magnetoplasdynamic, MPD, 252
 Malaysia, 68
 Management & Technical Services, 551, 554, 557, 560, 563, 567
 Management Services, Inc., 561, 563
 Manganiello, Eugene J., 399
 Manned Spaceflight Network, MSFN, 300
 Mariner, 309
 Mark, Hans, 388, 390
 Mars, 240, 309, 345, 398
 Marshall, General George C., 400
 Marshall Space Flight Center, 21, 25, 184, 248, 289, 383, 389, 396, 400, 401, 404, 407, 414–426, 428, 453–455, 472–482, 487–488, 492–493, 501, 513–516, 538–539; and Michoud Assembly Facility, 400; and Slidell Computer Complex, 400
 Martin, John J., 186, 187
 Martin Marietta Corporation, 372, 540, 541, 544, 547, 550, 553, 556, 559, 562, 565, 568
 Martin Thiokol Corporation, 52, 540, 550, 556, 559, 562, 565, 568
 Maryland, University of, College Park, 571, 574, 577, 580, 583, 586, 589, 592, 595, 598
 Massachusetts Institute of Technology, 248, 571, 574, 577, 580, 583, 586, 589, 592, 595, 598
 Massively Parallel Processor, MPP, 257
 Materials Experiment Assembly, MEA, 25, 26
 Materials Processing in Space, MPS, 360, 361
 Materialwissenschaftliche Autonome Experimente unter Schwerelosigkeit, MAUS, 25, 26
 McCarthy, John F., 399
 McCartney, Forrest, 396
 McCoy, Caldwell, Jr., 19
 McDonnell Douglas Corporation, 51, 52, 196, 197, 204, 210, 221, 361, 370, 540, 541, 544, 547, 550, 553, 556, 559, 562, 565, 568
 McElroy, John, 19, 393
 MCI, 53
 McIver, Duncan E., 188
 Measurement of Air Pollution From Satellites, MAPS, 26, 27

- Mechanical Technology, Inc., 551, 554, 557, 561, 564
- Memorandum of Agreement, MOA, 374, 375
- Memorandum of Understanding, MOU, 371, 372, 373, 374, 375
- Mercury, Project, 309, 396, 398, 401
- Mercury Consolidated Inc., 554
- Meredith, Leslie H., 393
- Merritt Island, Florida, 306, 307, 314, 347, 396
- Meteoroid and Exposure Module, MEM, 247, 248
- Miami, Florida, 396
- Michigan, University of, 571, 574, 577, 580, 583, 586, 589, 592, 595, 598
- Micro Craft, Inc., 567
- Micro-Gravity Research Associates, 371
- Microwave Limb Sounder, MLS, 102
- Middle East, 57, 65
- Minnesota, University of, 572, 575, 579, 582, 588, 591
- Mission Adaptive Wing, MAW, 198
- Mission Needs Statement, 502
- Mission Peculiar Equipment Support Structure, MPESS, 23, 24, 27
- Mississippi, Hancock County, 402
- Mitre Corp., 587, 593, 596
- Modular Computer Systems, Inc., 552
- Mojave Desert, California, 196, 300, 307, 344
- Moon, 240, 396, 401
- Moore, Jesse W., 395
- Morelos, Mexico, 17, 68, 73, 166
- Mouat, David A., 375
- Mount St. Helens, 14, 29
- Multimission Modular Spacecraft, MMS, 31, 32, 33, 43
- Multispectral Scanner, MSS, 42–44
- Muroc, California, 392
- Murray, Bruce C., 394
- Myers, Dale D., 388
- N
- NASA Communications, NASCOM, 303, 305, 307, 320
- NASA End-to-End Data System, NEEDS, 256
- NASA Headquarters, 428, 429–431, 472–482, 487–488, 492–493, 538–539
- NASA Inspector General, 513
- National Academy of Sciences, 571, 574, 577, 580, 583, 586, 589, 592, 595, 598
- National Advisory Committee for Aeronautics, NACA, 175, 237, 383, 390, 392, 398, 399, 403
- National Aeronautics and Space Act, 4, 31, 175, 356, 358, 499
- National Aeronautics and Space Administration, NASA, 3, 4, 6, 7, 11–19, 21, 23, 25, 28, 30, 31–38, 40, 41, 43, 45, 46, 47, 48, 50, 54, 55, 58, 60, 63, 65, 67, 68, 69, 70, 175, 176, 177, 178, 179, 180, 183, 184, 185, 186, 188, 189, 190, 191, 192, 194, 195, 197, 198, 199, 201, 202, 204, 205, 207, 208, 209, 210, 211, 216, 220, 222, 223, 224, 225, 227, 228, 229, 231, 232, 235, 236, 237, 238, 239, 241, 242, 243, 247, 252, 255, 256, 257, 296, 299, 300, 301, 302, 303, 304, 305, 307, 308, 309, 311, 312, 313, 314, 315, 319, 320, 321, 351, 355, 356, 357, 358, 359, 360, 362, 383, 386, 387, 389, 394, 396, 397, 398, 400, 401, 402, 403, 463, 465, 466, 497, 498, 499, 502, 503, 504, 505, 506
- National Aerospace Plane, NASP, 178, 182, 221–228
- National Meteorological Center, 34, 35
- National Oceanic and Atmospheric Administration, NOAA, 12, 14, 15, 16, 17, 28, 30, 32, 33, 34, 35, 36, 37, 38, 42, 43, 44, 48, 49, 72, 86, 107–115, 307
- National Science Foundation, 311
- National Scientific Balloon Facility, 312
- National Space Policy, 5, 240, 357, 358, 359
- National Transportation Safety Board, 234
- Naumann, Robert, 20
- Naval Research Laboratory, 393
- Navy, U.S., 17, 60, 70, 199, 204, 402
- Neptune, 3, 308, 311, 343
- Netherlands, The, 247
- Network Control Center, 307, 313, 333
- New England, 501, 537
- New Guinea, Papua, 67
- New Hampshire, University of, 578, 581, 583, 587, 590, 593, 596, 599
- New Mexico State University, 572, 575, 578, 581, 584, 587, 590, 593, 596, 598
- Nicks, Oran W., 397
- Nighttime/Daylight Optical Survey of Thunderstorm Lightning, NOSL, 22
- Nimbus, 12, 14, 15, 28, 32, 33, 37, 48, 86, 340, 341
- North America, 39, 48, 57
- North American Aircraft, 214
- North Atlantic Treaty Organization, NATO, 62, 63, 159
- Northeast Radio Observatory, 576, 585, 588
- Northrop Corporation, Worldwide Aircraft, 200, 551, 552, 554, 555, 557, 558, 560, 561, 563, 566, 567, 570
- Norway, 17
- NOVA, 70, 169–170
- NSI Technology Services Corp., 569

O

Oak Ridge National Laboratory, 253
 Office of Advanced Research and Technology,
 OART, 179
 Office of Management and Budget, 497
 Office of Science and Technology Policy, 177
 Ohio State University, 369, 572, 576, 585,
 593, 597, 599
 Oklahoma State University, 575, 579, 581,
 584, 591, 593, 597, 600
 Old Dominion University, 572, 575, 579, 582,
 584, 587, 590, 594, 596, 599
 Olstad, Walter B., 186
 Ontario, Canada, 17, 37, 48, 57, 64, 247
 Orbital Sciences Corporation, 371, 565, 569
 Orbital Transfer Vehicle, 251
 Orbiting Satellite Carrying Amateur Radio,
 Oscar, 69
 Organization of the Petroleum Exporting
 Countries, OPEC, 190
 Orient Express, 182
 Orlando, Florida, 235
 Ott, Richard H., 356

P

Page, George F., 396
 Paine, Thomas O., 388
 Palapa, 17, 51, 67, 68, 69, 73, 166–167
 Pan Am Pacific Satellite Corporation, 55
 Pan American World Airways, Services, 550,
 554, 557, 560, 563, 565, 568
 Parkes, Australia, 311, 312
 Parks, Robert J., 394
 Particle Environment Monitor, PEM, 103
 Pasadena, California, 300, 303, 313, 320, 394
 Patrick Air Force Base, 306
 Payload Assist Module, PAM, 17, 51, 52
 Pegasus, 401
 Pennsylvania State University, 369, 572,
 575, 578, 581, 585, 588, 591, 593, 596,
 599
 Perkin Elmer Corporation, 550, 553, 556, 559,
 563, 566, 569
 Petersen, Richard H., 397
 Petrone, Rocco A., 400
 Philippines, 68
 Phobos, 312
 Pickering, William H., 394
 Pioneer, 309, 311, 345
 Pittsburgh, University of, 572
 Planning Research Corp., 550, 553, 556, 559,
 562, 566, 568
 Plum Brook Station, 399
 Poker Flats Research Facility, 312

Polar Orbiting Geophysical Observatory,
 POGO, 45
 Ponce de Leon, 306, 307, 314, 347
 Povinelli, Frederick P., 187
 Pratt & Whitney, 191, 210, 212
 Princeton University, 572, 575, 578, 581, 585,
 588, 590, 593, 596, 599
 Procurement Request, PR, 502, 503, 504
 Program Communications Support Network,
 PCSN, 320, 321, 339
 Propfan Test Assessment, PTA, 195, 197
 Propulsion Systems Laboratory, 399
 Pseudorandom noise, PN, 350
 Puerto Rico, 50, 55
 Purdue University, 571, 574, 577, 581, 584,
 588, 591

Q

Quality Short-haul Research Aircraft, QSRA,
 181, 203, 204
 Quann, John J., 393
 Quiet, Clean, Short-haul Experimental Engine,
 QCSEE, 204

R

Rantek, 374
 Raytheon Services Company, 551, 554, 557,
 560, 563, 566, 569
 RCA, Satcom, Americom, 17, 35, 47, 50, 51, 52,
 53, 70, 72, 132–138, 540, 551, 553, 559, 562
 Reagan, Ronald, 3, 6, 11, 47, 182, 225, 355,
 357, 464
 Reck, Gregory, 188
 Redstone Arsenal, 400, 401
 Rees, Eberhard F.M., 400
 Reis, Victor, 177
 Rensselaer Polytechnic Institute, 582
 Request for Proposal, RFP, 502, 504
 Rescue Coordination Center, 48
 Research and Program Management, R&PM,
 497, 513
 Research Triangle Institute, 573, 576, 582,
 585, 588, 590, 594, 597
 RMS Technologies, Inc., 558, 564, 566
 Robertson, Floyd, 19
 Rockwell International, 214, 372, 540, 541,
 544, 547, 550, 553, 556, 559, 562, 565, 568
 Roeder, John H., 302
 Rogers Commission, 236, 389
 Rogers Dry Lake, 391
 Rohr Industries, 194, 195
 Rolls Royce, 210
 Rose, James T., 187, 355
 Rosen, Cecil C., III, 187

- Rosen, Robert, 187, 188
Rosman, North Carolina, 305, 348
Ross, Lawrence J., 399
Ross, Miles, 396
Rotor Systems Research Aircraft, RSRA,
Sikorsky Aircraft Division, 181, 205–208
- S
- Salisbury, Maryland, 402
Sander, Michael, 20
Sandusky, Ohio, 399
San Jose State University, California, 573,
576, 585, 597, 600
Santa Barbara Research Center, 551
Santiago, Chile, 306, 307, 348
Satellite Business Systems, SBS, 17, 51–54,
72, 139–141
Satellite Control Center, 34
Saturn, 3, 309, 310, 311, 396, 397, 401
Saudi Arabia, 65
Sauer Mechanical, Inc., 558
Scherer, Lee R., 391, 396
Schmoll, Kathryn, 20
Schneider, William, 301
Scott, David R., 391
Scott Science and Technology, Inc., 374
Seamans, Robert C., 388
Search and Rescue, SAR, 36, 37, 95, 257,
Search and Rescue Satellite Aided Tracking,
SARSAT, 17, 37, 47, 48, 49
Seasat, 14
Senate, U.S., 227, 228
Senegal, Dakar, 305, 307, 344
Sharp, Edward R., 399
Shepard, Alan B., 401
Short takeoff and landing, STOL, 180, 181,
203, 204, 210
Short takeoff and vertical landing, STOVL,
181, 203
Shuttle Carrier Aircraft, SCA, 241
Shuttle Imaging Radar, SIR-A, 22
Shuttle Multispectral Infrared Radiometer, 22
Sierra Negra, 14
Silverstein, Abe, 399
Singapore, 68
Singer Company, 551, 554, 557, 560, 563,
566, 570
Sjoberg, Sigurd A., 395
Skylab, 13, 396, 401
Slone, Henry O., 187
Small Business Administration, 506
Small Business Innovation Development Act,
361
Small Business Innovation Research, SBIR,
356, 359, 361, 362, 377, 378, 379
Small Business Technology Transfer, STTR,
362
Smith, Richard G., 396, 400
Smithsonian Institution, 571, 574, 577, 580,
583, 586, 589, 592, 595, 598
Smylie, Robert E., 301, 393
Socorro, New Mexico, 311
Solar Array Experiment, SAE, 246
Solar Backscatter Ultraviolet, SBUV, 37
Solar Cell Calibration Facility, SCCF, 246
Solar Mesospheric Explorer, SME, 69
Solar Stellar Irradiance Comparison
Experiment, SOLSTICE, 103
Solar Ultraviolet Spectral Irradiance Monitor,
SUSIM, 103
Source Evaluation Board, 504
South America, 39, 57
South Korea, 57
Southern California, University of, 572, 575,
579, 582
Southwest Research Institute, 572, 578, 581,
584, 587, 589, 592, 595, 598
Soviet Union, 17, 37, 48, 49, 397
Space Communications Company, 551, 558,
559
Space Flight, Control, and Data
Communications, SFC&DC, 303, 304, 497
Space Industries, Inc., 372
Space Services, Inc., 373
Space Shuttle program, 3, 11, 14, 17, 20,
21–28, 30, 31, 35, 47, 50, 51, 52, 62, 64,
65, 66, 67, 75, 79, 85, 89, 91, 104, 133,
140, 144, 153, 157, 175, 176, 179, 180
183–184, 211, 224, 228, 239, 240,
241–248, 251, 253, 288, 289, 290, 300,
305, 306, 307, 309, 313, 314, 315, 317,
320, 321, 342, 344, 347, 348, 357, 361,
370–375, 389, 391, 392, 393, 395, 397,
398, 401, 402, 404, 497, 513, 516, 517,
520; and Orbiter Processing Facility, 397;
and Shuttle Payload Engineering Division,
20; and Shuttle Landing Facility, 397; and
Space Shuttle Main Engine, SSME, 180,
402
Space Systems Development Agreement,
SSDA, 361, 373, 374,
Space Tracking and Data Acquisition Network,
STADAN, 300
Space Tracking and Data Network, STDN,
299, 300, 304, 305, 306, 307, 309, 313,
322, 325, 328, 338, 339, 343, 345, 347, 393
Space Transportation System, STS, 5, 6, 7, 14,
21, 55, 69, 348, 351
Spaceco, Ltd., 371
SPACEHAB, Inc., 374
Spacelab, 321, 329, 341

- Spacelab Data Processing Facility, 321
 Sperry Corporation, 373, 551, 554, 557, 560, 563
 Spinak, Abraham D., 402, 403
 SRI International Corp., 571, 575, 578, 581, 584, 587, 591
 Stacked Oscars on Scout, SOOS, 70, 71, 74, 171–172
 Stanford University, 502, 571, 574, 577, 580, 583, 586, 589, 592, 595, 598
 Stennis, John C., Senator, 402
 Stennis Space Center, 383, 389, 401, 402, 404, 428; and Mississippi Test Facility, 402; and National Space Technology Laboratories, 383, 389, 401, 402, 407, 414–426, 456–458, 463, 472–482, 487–488, 492–493, 513–516, 538–539
 Sterling Federal Systems, Inc., 566, 569
 Stevenson-Wydler Technology Act of 1980, 359
 Stofan, Andrew, 19, 399
 Stone, Barbara A., 356
 Strategic Air Command, 60
 Stratospheric Aerosol and Gas Experiment, SAGE, 14, 28, 29, 30, 31, 72, 100
 Stratospheric Aerosol Measurement II, 28
 Suitland, Maryland, 35
 Sun, 29, 32, 33, 69, 318
 Superhigh frequency, SHF, 69
 Surrey, University of, England, 69
 Sverdrup Technology, Inc., 563, 566, 569
 Sweden, 17
 Switzerland, 247
 Synchronous Meteorological Satellites, SMS, 12, 38
 Systems Development Corporation, 551, 554, 557, 560, 563
 Syvertson, Clarence A., 390
- T
- Tasmania, University of, 312, 347
 Taylor, Charles A., 301
 Technical Exchange Agreement, TEA, 360, 361, 370, 371, 372, 375, 376
 Technology Transfer, 92, 360
 Technology Utilization, 363, 364, 366
 Teledyne Industries, Inc., 551, 553, 556, 560, 563, 565, 568
 Television Infrared Observation Satellite, TIROS, 12, 14, 33–38, 48
 Telstar, 17, 50, 51, 73, 129–130
 Tennessee, University of, Space Institute, 369
 Terhune, Charles H., Jr., 394
 Terminal-Configured Vehicle, TCV, 229, 232
 Testardi, Louis R., 18, 20
 Texas A&M University, 369, 575, 578, 581, 584, 588, 597, 599
 Texas, University of, at Austin, 574, 578, 581, 584, 587, 590, 593, 596, 599; and at Dallas, 572, 575, 579, 582
 Thematic Mapper, TM, 42, 43
 Thome, Pitt, 19
 Thompson, James R., Jr., 400
 3M Company, 201, 372
 Tidbinbilla, Australia, 311, 312, 343
 Tile Gap Heating, TGH, 245, 289
 Tilford, Shelby G., 19
 Total Ozone Monitoring System, 15
 Tokyo, 182
 Total Energy Control System, TECS, 231
 Townsend, John W., Jr., 393
 Tracking and Data Relay Satellite System, TDRSS, 28, 30, 42, 43, 44, 257, 299, 300, 301, 302, 304, 307, 309, 313, 314, 315, 316, 317, 318, 319, 320, 322, 325, 329, 330, 331, 332, 333, 334, 336, 339, 350, 351, 352, 393, 395
 Transonic Aircraft Technology, TACT, 198
 Transport Systems Research Vehicle, TSRV, 229, 230, 231, 232
 Transportation, U.S. Department of, 176, 192
 Trimble, George S., 395
 TRW, 47, 314, 352, 550, 553, 556, 559, 562, 565, 568
 Tula Peak, 306
- U
- Ultrahigh frequency, UHF, 60, 62, 69
 Union Oil Company, 375
 Unisys Corp., 566, 569
 United Kingdom, 17, 34, 48, 57, 210, 247
 United Space Boosters, Inc., 540, 550, 553, 556, 559
 United States, U.S., 3, 5, 6, 7, 11, 13, 14, 17, 18, 34, 40, 47, 48, 50, 51, 55, 56, 59, 68, 176, 177, 178, 210, 234, 237, 247, 356, 357, 358, 359, 391, 499, 501
 United Technologies Corporation, 192, 205, 540, 550, 553, 556, 559, 562, 565, 568
 Universities Space Research, 571, 575, 577, 580, 583, 586, 589, 592, 595, 598
 University Corporation for Atmospheric Research, 583, 586, 589, 592, 595
 UoSAT, 69, 73, 168–169
 Upper Atmospheric Research Satellites, UARS, 15, 28, 31, 32, 33, 84, 87, 102, 104
 Uranus, 3, 184, 255, 311, 312, 345
 USBI Booster Production Co., 562, 565, 568
 Utah State University, 573, 587
 Utsman, Thomas E., 396

V

Vandenberg Air Force Base, California, 305, 306, 320, 397
Vanderbilt University, 369
Vanguard, Project, 393
Vega, Soviet spacecraft, 312
Venneri, Samuel L., 187
Venus, 309, 312, 345
Vernamonti, Len, Colonel, 226
Vertical short takeoff and landing, VSTOL, 181, 203, 205, 208
Vertical takeoff and landing, VTOL, 181, 203, 210
Very high frequency, VHF, 67, 69
Very Large Array, 311
Viking, project, 5, 398
Virgin Islands, 55
Virginia Electric & Power Company, 552, 555
Virginia Polytechnic Institute, 572, 575, 578, 581, 584, 587, 590, 594, 597, 599
Visible/Infrared Spin Scan Radiometer, VISSR, 39, 40
von Braun, Wernher, 400, 401
Vought Corporation, 552, 554
Voyager, 3, 5, 184, 255, 308, 309, 310, 311, 312, 343, 345, 347

W

Wallops Flight Facility/Wallops Flight Center, 14, 302, 306, 307, 312, 326, 346, 348, 383, 393, 402, 403, 404, 407, 414–426, 459–460, 466, 472–482, 487–488, 492–493, 513–516; and Wallops Research Airport, 403
W&J Construction Corp., 569
Washington, University of, 573, 575, 578, 581, 584, 587, 590, 593, 596, 599
Washington University, St. Louis, 576, 579, 581, 585, 588, 591, 594

Webb, James E., 388
Weitz, Paul J., 395
Westar Satellite System, 17, 50, 51, 54, 55, 56, 72, 142–144
Western Union, Spacecom, 51, 54, 55, 301, 314, 351
Westinghouse Electric Corporation, 551, 555, 557, 561, 563, 567
Whitcomb, Richard T., 197
White House, 358
White Sands, Las Cruces, New Mexico, 42, 44, 300, 305, 306, 307, 313, 395
White Sands Ground Terminal, 307, 315, 316, 318, 350
White Sands Missile Range, 312
White Sands Test Facility, 395
Whitten, Raymond, 355
Wild, Jack W., 301, 359
Williams, Dell P., III, 187
Williams, Walter C., 391
Wind Imaging Interferometer, WINDII, 102
Wisconsin, University of, 369, 571, 574, 577, 580, 583, 586, 589, 592, 595, 598
Wood, H. William, 301
Work Breakdown Structure, WBS, 502
World Meteorological Organization, 15
World War II, 219, 237, 392, 399
Wright, Linwood C., 187, 188
Wright-Patterson Air Force Base, 195, 214
Wyle Laboratories, 566, 569

Y

Young, A. Thomas, 390, 393

Z

Zero One Systems, Inc., 570

ABOUT THE COMPILER

Judy A. Rumerman is a professional technical writer who has written or contributed to numerous documents for the National Aeronautics and Space Administration. She has been the author of documents covering various spaceflight missions, the internal workings of NASA's Goddard Space Flight Center, and other material used for training. She was also the compiler of *U.S. Human Spaceflight: A Record of Achievement, 1961–1998*, a monograph for the NASA History Office detailing NASA's human spaceflight missions.

Ms. Rumerman has degrees from the University of Michigan and George Washington University. She grew up in Detroit and presently resides in Silver Spring, Maryland.

THE NASA HISTORY SERIES

Reference Works, NASA SP-4000

- Grimwood, James M. *Project Mercury: A Chronology* (NASA SP-4001, 1963).
- Grimwood, James M., and Hacker, Barton C., with Vorzimmer, Peter J. *Project Gemini Technology and Operations: A Chronology* (NASA SP-4002, 1969).
- Link, Mae Mills. *Space Medicine in Project Mercury* (NASA SP-4003, 1965).
- Astronautics and Aeronautics, 1963: Chronology of Science, Technology, and Policy* (NASA SP-4004, 1964).
- Astronautics and Aeronautics, 1964: Chronology of Science, Technology, and Policy* (NASA SP-4005, 1965).
- Astronautics and Aeronautics, 1965: Chronology of Science, Technology, and Policy* (NASA SP-4006, 1966).
- Astronautics and Aeronautics, 1966: Chronology of Science, Technology, and Policy* (NASA SP-4007, 1967).
- Astronautics and Aeronautics, 1967: Chronology of Science, Technology, and Policy* (NASA SP-4008, 1968).
- Ertel, Ivan D., and Morse, Mary Louise. *The Apollo Spacecraft: A Chronology, Volume I, Through November 7, 1962* (NASA SP-4009, 1969).
- Morse, Mary Louise, and Bays, Jean Kernahan. *The Apollo Spacecraft: A Chronology, Volume II, November 8, 1962–September 30, 1964* (NASA SP-4009, 1973).
- Brooks, Courtney G., and Ertel, Ivan D. *The Apollo Spacecraft: A Chronology, Volume III, October 1, 1964–January 20, 1966* (NASA SP-4009, 1973).
- Ertel, Ivan D., and Newkirk, Roland W., with Brooks, Courtney G. *The Apollo Spacecraft: A Chronology, Volume IV, January 21, 1966–July 13, 1974* (NASA SP-4009, 1978).
- Astronautics and Aeronautics, 1968: Chronology of Science, Technology, and Policy* (NASA SP-4010, 1969).
- Newkirk, Roland W., and Ertel, Ivan D., with Brooks, Courtney G. *Skylab: A Chronology* (NASA SP-4011, 1977).
- Van Nimmen, Jane, and Bruno, Leonard C., with Rosholt, Robert L. *NASA Historical Data Book, Volume I: NASA Resources, 1958–1968* (NASA SP-4012, 1976, rep. ed. 1988).
- Ezell, Linda Neuman. *NASA Historical Data Book, Volume II: Programs and Projects, 1958–1968* (NASA SP-4012, 1988).
- Ezell, Linda Neuman. *NASA Historical Data Book, Volume III: Programs and Projects, 1969–1978* (NASA SP-4012, 1988).
- Gawdiak, Ihor Y., with Fedor, Helen. Compilers. *NASA Historical Data Book, Volume IV: NASA Resources, 1969–1978* (NASA SP-4012, 1994).
- Rurman, Judy A. Compiler. *NASA Historical Data Book, Volume V: NASA Launch Systems, Space Transportation, Human Spaceflight, and Space Science, 1979–1988* (NASA SP-4012, 1999).

- Astronautics and Aeronautics, 1969: Chronology of Science, Technology, and Policy* (NASA SP-4014, 1970).
- Astronautics and Aeronautics, 1970: Chronology of Science, Technology, and Policy* (NASA SP-4015, 1972).
- Astronautics and Aeronautics, 1971: Chronology of Science, Technology, and Policy* (NASA SP-4016, 1972).
- Astronautics and Aeronautics, 1972: Chronology of Science, Technology, and Policy* (NASA SP-4017, 1974).
- Astronautics and Aeronautics, 1973: Chronology of Science, Technology, and Policy* (NASA SP-4018, 1975).
- Astronautics and Aeronautics, 1974: Chronology of Science, Technology, and Policy* (NASA SP-4019, 1977).
- Astronautics and Aeronautics, 1975: Chronology of Science, Technology, and Policy* (NASA SP-4020, 1979).
- Astronautics and Aeronautics, 1976: Chronology of Science, Technology, and Policy* (NASA SP-4021, 1984).
- Astronautics and Aeronautics, 1977: Chronology of Science, Technology, and Policy* (NASA SP-4022, 1986).
- Astronautics and Aeronautics, 1978: Chronology of Science, Technology, and Policy* (NASA SP-4023, 1986).
- Astronautics and Aeronautics, 1979–1984: Chronology of Science, Technology, and Policy* (NASA SP-4024, 1988).
- Astronautics and Aeronautics, 1985: Chronology of Science, Technology, and Policy* (NASA SP-4025, 1990).
- Noordung, Hermann. *The Problem of Space Travel: The Rocket Motor*. Stuhlinger, Ernst, and Hunley, J.D., with Garland, Jennifer. Editors (NASA SP-4026, 1995).
- Astronautics and Aeronautics, 1986–1990: A Chronology* (NASA SP-4027, 1997).
- Gawdiak, Ihor Y., and Shetland, Charles. Compilers. *Astronautics and Aeronautics, 1991–1995: A Chronology* (NASA SP-2000-4028, 2000).

Management Histories, NASA SP-4100

- Rosholt, Robert L. *An Administrative History of NASA, 1958–1963* (NASA SP-4101, 1966).
- Levine, Arnold S. *Managing NASA in the Apollo Era* (NASA SP-4102, 1982).
- Roland, Alex. *Model Research: The National Advisory Committee for Aeronautics, 1915–1958* (NASA SP-4103, 1985).
- Fries, Sylvia D. *NASA Engineers and the Age of Apollo* (NASA SP-4104, 1992).
- Glennan, T. Keith. *The Birth of NASA: The Diary of T. Keith Glennan*. Hunley, J.D. Editor (NASA SP-4105, 1993).
- Seamans, Robert C., Jr. *Aiming at Targets: The Autobiography of Robert C. Seamans, Jr.* (NASA SP-4106, 1996).

Project Histories, NASA SP-4200

- Swenson, Loyd S., Jr., Grimwood, James M., and Alexander, Charles C. *This New Ocean: A History of Project Mercury* (NASA SP-4201, 1966; rep. ed. 1998).
- Green, Constance McL., and Lomask, Milton. *Vanguard: A History* (NASA SP-4202, 1970; rep. ed. Smithsonian Institution Press, 1971).
- Hacker, Barton C., and Grimwood, James M. *On Shoulders of Titans: A History of Project Gemini* (NASA SP-4203, 1977).
- Benson, Charles D. and Faherty, William Barnaby. *Moonport: A History of Apollo Launch Facilities and Operations* (NASA SP-4204, 1978).
- Brooks, Courtney G., Grimwood, James M., and Swenson, Loyd S., Jr. *Chariots for Apollo: A History of Manned Lunar Spacecraft* (NASA SP-4205, 1979).
- Bilstein, Roger E. *Stages to Saturn: A Technological History of the Apollo/Saturn Launch Vehicles* (NASA SP-4206, 1980, rep. ed. 1997).
- SP-4207 not published.**
- Compton, W. David, and Benson, Charles D. *Living and Working in Space: A History of Skylab* (NASA SP-4208, 1983).
- Ezell, Edward Clinton, and Ezell, Linda Neuman. *The Partnership: A History of the Apollo-Soyuz Test Project* (NASA SP-4209, 1978).
- Hall, R. Cargill. *Lunar Impact: A History of Project Ranger* (NASA SP-4210, 1977).
- Newell, Homer E. *Beyond the Atmosphere: Early Years of Space Science* (NASA SP-4211, 1980).
- Ezell, Edward Clinton, and Ezell, Linda Neuman. *On Mars: Exploration of the Red Planet, 1958–1978* (NASA SP-4212, 1984).
- Pitts, John A. *The Human Factor: Biomedicine in the Manned Space Program to 1980* (NASA SP-4213, 1985).
- Compton, W. David. *Where No Man Has Gone Before: A History of Apollo Lunar Exploration Missions* (NASA SP-4214, 1989).
- Naugle, John E. *First Among Equals: The Selection of NASA Space Science Experiments* (NASA SP-4215, 1991).
- Wallace, Lane E. *Airborne Trailblazer: Two Decades with NASA Langley's Boeing 737 Flying Laboratory* (NASA SP-4216, 1994).
- Butrica, Andrew J. Editor. *Beyond the Ionosphere: Fifty Years of Satellite Communication* (NASA SP-4217, 1997).
- Butrica, Andrew J. *To See the Unseen: A History of Planetary Radar Astronomy* (NASA SP-4218, 1996).
- Mack, Pamela E. Editor. *From Engineering Science to Big Science: The NACA and NASA Collier Trophy Research Project Winners* (NASA SP-4219, 1998).
- Reed, R. Dale. With Lister, Darlene. *Wingless Flight: The Lifting Body Story* (NASA SP-4220, 1997).
- Heppenheimer, T.A. *The Space Shuttle Decision: NASA's Search for a Reusable Space Vehicle* (NASA SP-4221, 1999).
- Hunley, J.D. Editor. *Toward Mach 2: The Douglas D-558 Program* (NASA SP-4222, 1999).
- Swanson, Glen E. Editor. *"Before This Decade Is Out . . .": Personal Reflections on the Apollo Program* (NASA SP-4223, 1999).

Center Histories, NASA SP-4300

- Rosenthal, Alfred. *Venture into Space: Early Years of Goddard Space Flight Center* (NASA SP-4301, 1985).
- Hartman, Edwin, P. *Adventures in Research: A History of Ames Research Center, 1940–1965* (NASA SP-4302, 1970).
- Hallion, Richard P. *On the Frontier: Flight Research at Dryden, 1946–1981* (NASA SP- 4303, 1984).
- Muenger, Elizabeth A. *Searching the Horizon: A History of Ames Research Center, 1940–1976* (NASA SP-4304, 1985).
- Hansen, James R. *Engineer in Charge: A History of the Langley Aeronautical Laboratory, 1917–1958* (NASA SP-4305, 1987).
- Dawson, Virginia P. *Engines and Innovation: Lewis Laboratory and American Propulsion Technology* (NASA SP-4306, 1991).
- Dethloff, Henry C. “*Suddenly Tomorrow Came . . .*”: *A History of the Johnson Space Center* (NASA SP-4307, 1993).
- Hansen, James R. *Spaceflight Revolution: NASA Langley Research Center from Sputnik to Apollo* (NASA SP-4308, 1995).
- Wallace, Lane E. *Flights of Discovery: 50 Years at the NASA Dryden Flight Research Center* (NASA SP-4309, 1996).
- Herring, Mack R. *Way Station to Space: A History of the John C. Stennis Space Center* (NASA SP-4310, 1997).
- Wallace, Harold D., Jr. *Wallops Station and the Creation of the American Space Program* (NASA SP-4311, 1997).
- Wallace, Lane E. *Dreams, Hopes, Realities: NASA’s Goddard Space Flight Center, The First Forty Years* (NASA SP-4312, 1999).

General Histories, NASA SP-4400

- Corliss, William R. *NASA Sounding Rockets, 1958–1968: A Historical Summary* (NASA SP-4401, 1971).
- Wells, Helen T., Whiteley, Susan H., and Karegeannes, Carrie. *Origins of NASA Names* (NASA SP-4402, 1976).
- Anderson, Frank W., Jr. *Orders of Magnitude: A History of NACA and NASA, 1915–1980* (NASA SP-4403, 1981).
- Sloop, John L. *Liquid Hydrogen as a Propulsion Fuel, 1945–1959* (NASA SP-4404, 1978).
- Roland, Alex. *A Spacefaring People: Perspectives on Early Spaceflight* (NASA SP-4405, 1985).
- Bilstein, Roger E. *Orders of Magnitude: A History of the NACA and NASA, 1915–1990* (NASA SP-4406, 1989).
- Logsdon, John M. Editor. With Lear, Linda J., Warren-Findley, Jannelle, Williamson, Ray A., and Day, Dwayne A. *Exploring the Unknown: Selected Documents in the History of the U.S. Civil Space Program, Volume I: Organizing for Exploration* (NASA SP-4407, 1995).

- Logsdon, John M. Editor. With Day, Dwayne A., and Launius, Roger D. *Exploring the Unknown: Selected Documents in the History of the U.S. Civil Space Program, Volume II: External Relationships* (NASA SP-4407, 1996).
- Logsdon, John M. Editor. With Launius, Roger D., Onkst, David H., and Garber, Stephen E. *Exploring the Unknown: Selected Documents in the History of the U.S. Civil Space Program, Volume III: Using Space* (NASA SP-4407, 1998).
- Logsdon, John M. Editor. With Williamson, Ray A., Launius, Roger D., Acker, Russell J., Garber, Stephen J., and Friedman, Jonathan L. *Exploring the Unknown: Selected Documents in the History of the U.S. Civil Space Program, Volume IV: Accessing Space* (NASA SP-4407, 1999).

PDF | Summary of the solar total irradiance observations of the ACRIM experiment on the Spacelab 1 and ATLAS 1,2, & 3 missions. | Find, read and cite all the research you need on ResearchGate.Â Download full-text PDF. Observations of the atlas/acrim experiment. Presentation (PDF Available) Â March 1995 with 7 Reads. How we measure 'reads'. The second ACRIM satellite solar monitoring experiment (ACRIM II) has provided high precision total solar irradiance observations since its launch as part of the Upper Atmosphere Research Satellite (UARS) mission in late 1991 and continues at present.Â The ACRIM I experiment on the Solar Maximum Mission provided the first unambiguous evidence of intrinsic total solar irradiance (TSI) variability (Willson 1980) (see Figure 1). T h e first clear evidence was a TSI 'dip' near 1980 day 100 (Willson et. al. The Active Cavity Radiometer Irradiance Monitor Satellite, or ACRIMSAT is a defunct satellite carrying the ACRIM-3 (Active Cavity Radiometer Irradiance Monitor 3) instrument. It was one of the 21 observational components of NASA's Earth Observing System program. The instrument followed upon the ACRIM1 and ACRIM2 instruments that were launched on multi-instrument satellite platforms.