Subject Term Index

A

Ablation, 60
Ablative Materials, 60
Absorption Spectra, 110, 111, 113, 124, 126, 135, 139, 140, 144
Absorption Spectroscopy, 94, 116, 117, 143
Accelerated Life Tests, 52
Acceleration Protection, 157
Accumulators, 40, 89
Accuracy, 83, 95, 104, 106, 125, 129, 141
Acoustic Coupling, 173, 190
Acoustic Excitation, 88
Acoustic Measurement, 172
Acoustic Velocity, 173
Acoustics, 82
Active Control, 6, 21, 31, 32, 45, 61, 164, 173, 186, 190, 215
Active Galactic Nuclei, 208
Activity (biology), 147
Actuators, 50, 61, 74, 75, 77, 100, 173, 185, 190
Adaptive Control, 159
Additives, 9, 62
Adhesives, 62, 171
Adrenergics, 153
Adsorption, 150, 217
Advanced Very High Resolution Radiometer, 115, 143
Aeroacoustics, 3, 6, 30, 44, 172, 173, 193
Aerodynamic Balance, 22
Aerodynamic Characteristics, 2, 6, 35, 99, 171, 215
Aerodynamic Coefficients, 30
Aerodynamic Configurations, 5, 19
Aerodynamic Drag, 4, 6, 97, 167, 219
Aerodynamic Forces, 1
Aerodynamic Heating, 90, 188
Aerodynamic Noise, 88, 173, 193
Aerodynamic Stability, 28, 29, 31, 33
Aerodynamics, 20, 46, 164, 170, 185
Aeroelasticity, 1, 5, 28, 29, 30, 44, 99
Aeroservoelasticity, 6, 21, 28, 30, 31, 32, 33, 34, 46
Aerosols, 93, 94, 95, 103, 105, 118, 120, 121, 123, 126, 127, 138, 140, 143, 144
Aerospace Engineering, 200, 216
Aerospace Environments, 147
Aerospace Industry, 134
Aerospace Medicine, 147, 150, 151, 210
Aerothermochemistry, 90, 188
Aging (materials), 16
Agreements, 192, 202
Air Cargo, 22
Air Masses, 115, 143
Air Pollution, 94, 117
Air To Air Missiles, 3, 19, 20, 35
Air Traffic Control, 6
Air Traffic Controllers (personnel), 155
Air Transportation, 7
Air Water Interactions, 146
Airborne Equipment, 93, 107, 127, 135, 144, 180
Airborne Lasers, 92, 93, 106
Airborne/spaceborne Computers, 32
Aircraft Accidents, 7
Aircraft Communication, 82
Aircraft Compartments, 7, 10, 11, 35, 73
Aircraft Configurations, 13, 18
Aircraft Construction Materials, 7, 10, 55, 59, 60, 64, 73
Aircraft Control, 20, 32, 35, 45, 151, 156, 198
Aircraft Design, 1, 7, 10, 11, 13, 18, 19, 21, 22, 32, 34, 35, 57, 163, 188, 196
Aircraft Engines, 38, 39, 45, 66, 67, 68, 69, 72, 95, 96, 198
Aircraft Equipment, 18
Aircraft Fuels, 7
Aircraft Hazards, 10, 155
Aircraft Icing, 18
Aircraft Industry, 44, 197, 202
Aircraft Landing, 173, 193
Aircraft Maintenance, 23, 24, 25, 26, 97
Aircraft Maneuvers, 6, 215
Aircraft Models, 34
Aircraft Noise, 3, 173, 193
Aircraft Performance, 13, 14, 15, 16, 28
Aircraft Pilots, 21, 35, 151
Aircraft Safety, 6, 7, 11, 12, 16, 25, 32
Aircraft Spin, 14
Aircraft Stability, 6, 215
Aircraft Structures, 23, 24, 26, 27, 51, 55, 56, 57, 59, 61, 84, 99, 182, 194
Aircraft Structures Fuselages, 27
Aircraft Wakes, 6
Airfoil Profiles, 2
Airfoils, 2, 35, 87, 164, 185, 190
Airframe Materials, 63
Airframes, 6, 27, 34, 45, 56, 57, 58, 191
Airline Operations, 6
Airports, 12
Airships, 19
Airy Function, 98
Alertness, 155
Alexandrite, 108, 142
Algebra, 160, 166
Algorithms, 45, 46, 86, 110, 111, 121, 123, 128, 139, 140, 144, 157, 162, 163, 165, 166, 168, 195, 221, 222
Alignment, 176, 210
Alkyl Compounds, 177, 212
Alloys, 173
Alternating Direction Implicit Methods, 86
Aluminum, 47, 63, 75, 79, 173, 219
Aluminum Alloys, 23, 56, 63, 101
Ammonia, 150, 217
Analog Circuits, 76, 84
Angle of Attack, 2, 3, 5, 11, 16, 17
Angular Resolution, 174, 211
Anisotropy, 170
Annual Variations, 83, 124, 140
Antarctic Regions, 52, 107, 108, 146
Antenna Arrays, 83
Antenna Radiation Patterns, 83, 145, 221
Anthropometry, 157, 168
Apertures, 83, 95, 120
Applications Programs (computers), 2, 25, 31, 38, 39, 45, 81, 85, 89, 95, 101, 145, 156, 161, 162, 163, 196, 198, 199, 218
Approach Control, 164, 186
Approximation, 45, 166, 174, 211, 214
Architecture (computers), 158, 160, 163, 164
Aromatic Compounds, 60
Artificial Clouds, 95, 119
Artificial Intelligence, 158, 159, 160, 163, 164, 167, 199
Artificial Satellites, 50, 180
Assessments, 7, 10, 155
Assumptions, 169, 201
Asymptotic Methods, 45
Athletes, 157, 168
Atlantis (orbiter), 48
Atmospheric Attenuation, 50, 82, 105
Atmospheric Chemistry, 50, 103, 105, 114, 135, 137, 138
Atmospheric Circulation, 109, 113, 139, 142
Atmospheric Composition, 50, 52, 93, 94, 95, 103, 105, 106, 107, 112, 114, 117, 119, 120, 125, 128, 135, 138, 141, 142
Atmospheric Density, 119, 121, 139, 140
Atmospheric Effects, 112, 139

Atmospheric General Circulation Models, 137
Atmospheric Models, 110, 121, 138, 140
Atmospheric Moisture, 108, 115, 126, 127, 142, 143, 144, 145
Atmospheric Physics, 103, 138
Atmospheric Pressure, 50, 105
Atmospheric Radiation, 111, 122, 124, 139, 140, 144
Atmospheric Scattering, 103, 104, 123, 129, 140
Atmospheric Sounding, 52, 92, 94, 103, 104, 107, 110, 116, 117, 118, 121, 122, 124, 126, 127, 128, 138, 140, 141, 142, 143, 144, 145
Atmospheric Stratification, 104, 142
Atmospheric Temperature, 50, 52, 92, 94, 103, 105, 107, 114, 118, 121, 123, 124, 138, 140, 142, 144
Atmospheric Windows, 112, 139
Atomic Force Microscopy, 65
Attenuators, 75
Attitude (inclination), 34, 51, 176, 187, 210
Attitude Control, 96
Audio Frequencies, 40, 89
Automatic Control, 6, 160, 164
Automatic Flight Control, 18
Autonomy, 54, 129, 160, 164
Avionics, 13
Axial Compression Loads, 101, 214
Azimuth, 176, 210

B

B-1 Aircraft, 14
B-2 Aircraft, 11, 13, 16, 33
Backscattering, 104, 105, 120, 123, 138, 140, 142, 143
Bacteria, 150, 217
Balloon Flight, 112, 142
Balloon Sounding, 112, 142
Balloon-borne Instruments, 112, 128, 141, 143
Bandpass Filters, 118, 139
Barium Ion Clouds, 95, 119
Base Flow, 88
Bayes Theorem, 25, 97, 174
Bearings, 39, 64, 95, 96
Behavior, 150
Belief Networks, 159, 163
Bellows, 75
Bend Tests, 63
Benzoic Acid, 177, 212
Binary Mixtures, 177, 212
Biodegradation, 150, 217
Biological Effects, 147
Biological Models (mathematics), 156, 168
Biomass, 150, 217, 220
Bioreactors, 150, 217, 220
Bl Lacertae Objects, 208, 209
Blade Tips, 43
Blade-vortex Interaction, 3, 172
Blankets (fusion Reactors), 174, 211
Block Diagrams, 129, 163, 222
Blood Cells, 149, 153
Blood Coagulation, 150, 151
Blood Plasma, 152
Blood Pressure, 153
Blunt Bodies, 91, 101
Blunt Leading Edges, 2, 3
Body Temperature, 147
Boeing 777 Aircraft, 13
Boiling, 90, 213
Bolted Joints, 27, 60
Bolts, 50, 78
Bomber Aircraft, 11, 18
Bombs (ordnance), 15
Bone Marrow, 149
Boosters (explosives), 47, 79
Boron, 64
Boundary Conditions, 89
Boundary Layer Combustion, 97, 185
Boundary Layer Control, 35, 190
Boundary Layers, 6, 30, 90, 93, 109, 211
Bow Waves, 89, 91, 100, 101
Box Beams, 99
Braided Composites, 59, 61, 180
Breathing Apparatus, 157
Bremsstrahlung, 176, 205, 206, 207
Brightness, 174, 211
Brightness Temperature, 92, 111, 114, 139
Broadband, 103, 138
Bromine, 59
Brush Seals, 37, 38, 41, 90, 96
Brushes, 37, 96, 97, 219
Buckling, 59, 61
Buoyancy, 46, 85, 87, 192
Burger Equation, 166

C

C-141 Aircraft, 26
Cabin Atmospheres, 7
Cables (ropes), 22
Calibrating, 22, 46, 166, 183, 195
Cameras, 48, 93, 105
Canadair Aircraft, 31
Canard Configurations, 30
Cancer, 150
Capillary Flow, 86
Carbon, 84, 212
Carbon Dioxide, 128, 141, 175
Carbon Dioxide Concentration, 175
Carbon Dioxide Lasers, 94, 117
Carbon Fiber Reinforced Plastics, 61, 180
Carbon Monoxide, 114, 135
Carbon-carbon Composites, 54
Cartridges, 77
Cascade Flow, 44
Case Histories, 7, 26
Cassini Mission, 135
Catecholamine, 153
Cavitation Flow, 173, 219
Cavity Flow, 2, 43
Cavity Resonators, 173, 190
Celestial Mechanics, 203
Cells, 83, 213
Center of Gravity, 15
Centrifugal Compressors, 43
Ceramic Coatings, 37, 65, 66, 68, 69, 70, 71, 72, 96
Ceramics, 98, 156
Certification, 32, 57
Channel Flow, 39, 85, 89
Chaos, 165
Charring, 9, 62, 132
Chebyshev Approximation, 5
Chemical Analysis, 71
Chemical Effects, 173
Chemical Reactions, 55, 71
Chemiluminescence, 92, 219
Chirality, 177, 212
Chlorofluorocarbons, 110, 128, 135, 141
Choked Flow, 79
Circadian Rhythms, 147, 152, 154
Circuits, 45, 92, 129, 183, 184
Circular Waveguides, 83
Cirrus Clouds, 105, 112, 115, 121, 122, 138, 139, 143, 144
Civil Aviation, 32, 45, 46, 198
Climate, 122, 143
Climate Change, 142
Climate Models, 122, 144
Climatology, 52, 107, 142
Closed Ecological Systems, 150, 175, 217
Cloud Cover, 104, 122, 129, 142, 143
Cloud Physics, 121, 122, 123, 140, 144
Clouds (meteorology), 120, 121, 123, 140, 143, 144
Cluster Analysis, 145, 216
Coatings, 92, 183
Coefficient of Friction, 92, 183
Cognition, 156, 168

Cognitive Psychology, 156, 168
Coherent Radar, 93, 109, 137
Cold Working, 101, 213
Color, 161, 204
Columns (supports), 101, 213
Combustion, 79
Combustion Chambers, 46, 52, 192
Combustion Chemistry, 8, 9, 61, 62
Combustion Control, 91
Combustion Physics, 7, 8, 61, 62, 214, 215
Combustion Products, 10, 46, 155, 192
Command and Control, 19
Commercial Aircraft, 7, 10, 73
Communication Satellites, 130, 131, 134
Comparison, 105, 138
Component Reliability, 52
Composite Materials, 51, 58, 60, 61, 89, 99, 182, 185
Composite Structures, 14, 55, 56, 57, 59, 61, 99, 194
Compounding, 25, 101
Compressible Flow, 4
Compressible Fluids, 90, 164, 185, 211
Compression Tests, 59, 63, 70, 71
Compressive Strength, 61, 63, 70, 71, 180
Compton Effect, 175, 189
Computation, 159
Computational Astrophysics, 176, 204, 205, 206, 207
Computational Fluid Dynamics, 2, 3, 4, 6, 41, 43, 46, 86, 87, 88, 90, 91, 164, 165, 184, 185, 191, 192, 194
Computational Grids, 4, 88, 99, 110, 139
Computer Aided Design, 1, 36, 37, 45, 72
Computer Graphics, 161
Computer Networks, 158, 160, 163, 164, 187, 210, 217
Computer Programming, 158, 159, 160, 163, 164, 167
Computer Programs, 32, 34, 42, 47, 48, 50, 51, 78, 79, 97, 163, 181, 183, 185, 187, 193, 201, 220, 222
Computer Systems Design, 158, 160
Computer Systems Performance, 164, 217
Computer Techniques, 158, 187
Computer Vision, 162, 221
Computerized Simulation, 21, 34, 36, 41, 51, 72, 90, 96, 133, 134, 150, 163, 175, 183, 184, 222
Concentration (composition), 52, 105, 107, 138
Conducting Polymers, 84, 177, 212
Conductive Heat Transfer, 90, 213
Conferences, 7, 23, 28, 65, 73, 82, 103, 129, 166
Congressional Reports, 202
Connectors, 76, 84
Conservation Equations, 39, 46, 89, 192
Constraints, 169, 201
Construction, 91
Construction Materials, 8, 62, 69, 98
Contactors, 47
Continuous Wave Lasers, 92, 93, 106, 108, 109, 142
Continuum Modeling, 111, 139
Continuums, 111, 139
Contrails, 116, 143
Control Surfaces, 13, 16, 19, 20, 33, 34, 188
Control Systems Design, 45, 49, 89, 164, 186
Control Theory, 49, 87
Controllability, 14, 15
Controllers, 95, 100, 168
Convective Flow, 91, 197
Convergent-divergent Nozzles, 2, 4
Cooling, 132
Cooling Systems, 66
Correction, 176, 205, 207
Corrosion Prevention, 26, 63
Corrosion Resistance, 90, 213
Cost Analysis, 171, 199
Cost Effectiveness, 163
Cost Estimates, 171, 199
Cost Reduction, 54, 129, 202
Costs, 164, 217
Crack Closure, 102, 188
Crack Initiation, 23, 27, 63, 71, 218
Crack Propagation, 23, 24, 26, 27, 63, 64, 98, 101, 102, 188, 218
Crack Tips, 71
Cracking (fracturing), 23, 26, 27, 58, 64, 101, 156
Cracks, 23, 24, 101
Crash Landing, 7, 10, 155
Creep Strength, 63
Criteria, 10
Critical Path Method, 171, 199
Critical Velocity, 1
Cross Flow, 87
Crres (satellite), 51, 161
Cryogenic Fluid Storage, 50, 221
Cryogenic Fluids, 39, 40, 89, 96
Cryogenic Wind Tunnels, 46
Cryogenics, 50, 221
Crystal Growth, 73, 81
Crystal Structure, 177, 213
Crystallinity, 72, 211
Crystals, 116, 143
Cultivation, 149
Current Density, 54
Curve Fitting, 31
Cyclic Amp, 153
Cyclic Loads, 27, 60, 101, 214
Cyclotron Frequency, 136
Cyclotrons, 136
Cylindrical Shells, 101, 173, 190, 214
Cytology, 149

D

Damage, 24, 58
Damage Assessment, 23, 25, 26, 27, 97, 101
Damping, 5
Data Acquisition, 35, 121, 122, 123, 140, 143, 144, 190, 200
Data Base Management Systems, 181, 201
Data Bases, 22, 51, 161, 168, 169, 182, 200, 201
Data Links, 83, 168, 201, 213, 218
Data Management, 200
Data Processing, 137
Data Processing Equipment, 103, 128
Data Reduction, 28, 33, 51, 80, 92, 134
Data Storage, 48, 220
Data Systems, 46, 83, 113
Data Transmission, 83, 218
Decision Making, 164, 167, 169, 199, 201, 218
Decomposition, 159
Deformation, 99
Degradation, 23
Delay, 83, 106
Delta Wings, 2, 3
Dense Plasmas, 176, 205, 207
Density Distribution, 119, 139
Density Measurement, 138
Deployment, 95
Desensitizing, 153
Design Analysis, 10, 11, 18, 30, 34, 35, 47, 50, 61, 73, 74, 75, 77, 78, 79, 97, 132, 133, 199, 219
Desorption, 62, 171
Detection, 92, 176, 219, 220
Detonable Gas Mixtures, 161
Detonation, 78
Detonators, 74, 75, 76, 80
Diagnosis, 174, 211
Diesel Engines, 65, 67, 69, 71
Diets, 147
Differential Absorption Lidar, 95, 108, 116, 120, 127, 128, 135, 141, 142, 143, 144, 145, 180
Differential Equations, 86, 165
Diffraction Patterns, 72, 211
Diffractive Optics, 175

Diffusion Coefficient, 62, 92, 171, 183
Diffusion Theory, 174, 211
Digital Filters, 33, 46
Digital Systems, 45, 198
Digital Television, 83, 216
Diodes, 74, 94, 116, 177, 212
Discharge Coefficient, 132
Discontinuity, 142
Displacement, 65, 101, 214
Displacement Measurement, 65
Display Devices, 152, 157
Distributed Parameter Systems, 159
Distributed Processing, 88
Distribution, 204
Diurnal Variations, 83
Divergence, 174, 211
Doped Crystals, 84, 212
Doppler Effect, 176, 206
Doppler Radar, 93, 103, 108, 109, 142, 145, 218
Dosimeters, 51
Drag Chutes, 6, 167
Duct Geometry, 4
Durability, 68
Dye Lasers, 108, 135, 142, 180
Dyes, 73, 81
Dynamic Characteristics, 17, 38, 85, 171
Dynamic Control, 33, 46
Dynamic Loads, 22
Dynamic Models, 33, 34, 38, 46, 47, 79, 162
Dynamic Pressure, 28
Dynamic Response, 22, 28, 29, 34, 88, 92, 99
Dynamic Stability, 32
Dynamic Structural Analysis, 26, 61, 88, 100, 185, 210
Dynamic Tests, 30
Dynamical Systems, 165, 166

E

Earth Atmosphere, 115, 135, 143, 181, 197
Earth Ionosphere, 103, 138
Earth Magnetosphere, 137
Earth Observations (from Space), 128
Earth Orbital Environments, 59, 130
Earth Radiation Budget, 116, 143
Earth Resources Information System, 200
Echoes, 136
Economic Analysis, 182, 199
Economic Development, 202
Education, 157, 158, 163, 179, 187, 198, 216, 219
Elastic Buckling, 101, 213
Elastic Deformation, 41, 96
Elastic Plates, 100, 101
Elastoplasticity, 101, 213, 214
Electric Arcs, 51
Electric Batteries, 129, 130, 131, 133, 134
Electric Cells, 129
Electric Current, 77
Electric Discharges, 74, 76, 84
Electric Energy Storage, 129
Electric Equipment Tests, 129, 134
Electric Fields, 45, 47, 84, 184
Electric Generators, 89
Electric Ignition, 74, 75, 76, 77, 84
Electric Potential, 91, 132, 166, 183
Electric Power Supplies, 132
Electric Reactors, 174, 211
Electrical Insulation, 84
Electrical Properties, 177, 212
Electrical Resistivity, 59
Electro-optical Effect, 177, 212
Electro-optics, 177, 210, 212, 213
Electrochemical Corrosion, 63
Electrodes, 131, 133, 134
Electroluminescence, 177, 212
Electrolysis, 62, 81, 82
Electrolytic Cells, 131
Electromagnetic Compatibility, 45, 184
Electromagnetic Coupling, 83
Electromagnetic Interference, 45, 59, 184
Electromagnetic Radiation, 136
Electromagnetic Scattering, 204, 206
Electromagnetic Wave Transmission, 82
Electromagnetism, 145, 221
Electromagnets, 163, 196
Electromechanical Devices, 78, 157, 216
Electromechanics, 75
Electron Beams, 68, 175, 189
Electron Counters, 51
Electron Density (concentration), 54
Electron Diffusion, 176, 206
Electron Energy, 51, 175, 189
Electron Scattering, 176, 205, 206
Electronic Control, 32, 46
Electronic Equipment Tests, 83, 213
Electrons, 51
Electrostatic Waves, 47
Electrostatics, 74, 75
Elliptic Differential Equations, 165, 166
Emission Spectra, 52, 73, 81, 107, 112, 143
Emittance, 112, 115, 121, 139, 140, 143
Emotional Factors, 156, 168
Endocrinology, 152
Energy Conservation, 97, 219
Energy Dissipation, 87
Energy Spectra, 208, 209
Energy Storage, 132
Energy Technology, 130, 131
Energy Transfer, 170, 176
Engine Design, 36, 66, 67, 97, 193
Engine Parts, 36, 38
Engine Tests, 68
Engineering Management, 199, 221
Environment Effects, 135
Environment Management, 135, 195
Environment Models, 172
Environment Pollution, 135, 195
Environment Protection, 36, 135
Environmental Control, 147, 149
Environmental Engineering, 210
Environmental Tests, 58
Ephemerides, 203
Epinephrine, 153
Epoxy Matrix Composites, 59, 60
Epoxy Resins, 59, 61, 63, 180
Equations of Motion, 6, 91, 194, 215
Equilibrium Equations, 98
Erosion, 173, 219
Error Analysis, 14, 33, 112, 118, 139, 201
Esa Spacecraft, 49
Esters, 177, 212
Estimates, 83, 106
Estimating, 34, 145, 216
Etalons, 125, 141
Ethane, 137
Ethyl Compounds, 63
Ethylene, 150, 220
Euler Equations of Motion, 86, 99
European Space Agency, 49
Eutectic Composites, 63
Excimer Lasers, 94, 119
Exercise Physiology, 152, 153, 154
Exhaust Emission, 135
Exhaust Nozzles, 89
Expert Systems, 48, 220
Exploding Wires, 75, 76
Explosive Devices, 50, 73, 74, 78
External Stores, 15
External Tanks, 15, 163, 222
Extinction, 104, 129
Extragalactic Radio Sources, 203, 208
Extraterrestrial Radiation, 51, 150
Extravehicular Activity, 18, 48
Eye (anatomy), 155
Eye Protection, 92, 106

F

F-111 Aircraft, 14
F-14 Aircraft, 12, 20, 35

F-15 Aircraft, 16
F-16 Aircraft, 11, 17, 29
F-18 Aircraft, 13, 16, 31
Fabrication, 51, 56, 75, 132, 182
Fabry-perot Interferometers, 125, 141
Factorial Design, 72
Failure Analysis, 22, 23, 24, 47, 77, 78, 79, 101
Failure Modes, 68
Fairings, 47, 79
Fast Nuclear Reactors, 174, 211
Fasteners, 78
Fasting, 152, 153, 154
Fatigue (biology), 155
Fatigue (materials), 22, 23, 24, 25, 26, 27, 57, 61, 63, 97, 98, 101, 102, 188, 194
Fatigue Life, 23, 24, 27, 56, 57, 58, 60, 65, 69, 71, 99
Fatigue Tests, 26, 27, 57, 58, 61, 70, 194
Fatty Acids, 150, 217
Fault Tolerance, 50, 77
Feasibility Analysis, 72
Federal Budgets, 202
Feedback Control, 34, 45, 46, 100, 195
Ferrites, 75
Ferroelectricity, 177, 212, 213
Ferromagnetism, 170
Fiber Composites, 8, 56, 62, 99
Fiber Optics, 45, 80, 83, 92, 107, 175, 184, 210, 213
Field Effect Transistors, 84, 212
Field of View, 107, 175
Field Theory (physics), 170
Fighter Aircraft, 3, 26, 27, 32, 34, 157
Film Thickness, 72, 177, 211, 213
Financial Management, 202
Finite Difference Theory, 4, 5, 50, 78, 161
Finite Element Method, 23, 24, 25, 30, 33, 34, 41, 46, 47, 50, 59, 60, 72, 78, 79, 96, 98, 101, 163, 165, 192, 196, 214
Finite Volume Method, 41, 42, 87, 90
Finned Bodies, 5, 88
Fire Damage, 7
Fire Prevention, 7
Fires, 7, 8, 10, 61, 62, 155
Fission Products, 174
Fixtures, 157, 216
Flame Propagation, 8, 61, 62, 215
Flame Retardants, 7, 9, 10, 62, 73
Flammability, 7, 8, 9, 62
Flexibility, 65
Flexible Bodies, 100
Flexible Wings, 21
Flight Characteristics, 6, 13, 17, 34, 188, 215
Flight Control, 11, 13, 16, 17, 20, 28, 32, 33, 35, 45, 46
Flight Crews, 16
Flight Hazards, 10, 155
Flight Instruments, 151, 152, 157
Flight Mechanics, 19, 33
Flight Safety, 7, 11, 12, 18, 21
Flight Simulators, 151, 152, 156, 157
Flight Tests, 6, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, 33, 35, 46, 48, 93, 107, 134, 151, 156, 171
Flight Vehicles, 33
Flow Characteristics, 89
Flow Distribution, 2, 3, 4, 43, 65, 87, 173, 193
Flow Equations, 91, 194
Flow Geometry, 39, 89
Flow Stability, 86, 90, 211
Flow Velocity, 91, 197
Flow Visualization, 2, 89, 91, 101
Fluctuation Theory, 176, 207
Fluid Films, 39, 40, 41, 43, 89, 96, 97
Fluid Jets, 99
Fluorescence, 94, 118, 174
Fluorides, 55
Flutter, 1, 6, 21, 28, 29, 30, 31, 32, 33, 46
Flutter Analysis, 1, 28, 29, 31, 33
Flux (rate), 52, 170, 176
Flux Difference Splitting, 87
Fly By Light Control, 19, 45, 184, 198
Fly By Wire Control, 20, 33
Foil Bearings, 41, 96
Fokker Aircraft, 28
Folding, 61, 180
Food Production (in Space), 175
Force Distribution, 166, 183
Forced Vibration, 28, 29, 32, 33
Formaldehyde, 137
Format, 103, 128
Fortran, 161
Forward Scattering, 93
Fourier Analysis, 101
Fourier Series, 100, 101
Fourier Transformation, 83, 92, 106, 114
Fracture Mechanics, 63, 102, 188
Fracture Strength, 57, 58, 63, 99
Fractures (materials), 63, 71
Fracturing, 47, 76, 78
Free Flow, 88, 89, 90, 184
Free Vibration, 100
Freezing, 178
Frequency Modulation, 17
Frequency Ranges, 81, 85
Frequency Response, 28, 29, 31
Fuel Combustion, 7, 91
Fuel Consumption, 36, 69
Fuel Flow, 91
Fuel Injection, 97, 185, 193
Fuel Tanks, 15, 50
Full Scale Tests, 27
Functional Design Specifications, 10, 35, 75, 76, 157, 216
Fuselages, 23, 60
Fuzzy Sets, 164, 166, 167, 169, 201
Fuzzy Systems, 6, 95, 157, 164, 166, 167, 168, 169, 199, 201

G

Galactic Radiation, 204
Galactic Structure, 204
Galerkin Method, 165
Gamma Ray Astronomy, 208, 209
Gamma Ray Spectra, 208, 209
Gamma Rays, 208, 209
Gas Bearings, 43, 97
Gas Composition, 10, 137, 155
Gas Detectors, 175
Gas Flow, 46, 192
Gas Generators, 52
Gas Pressure, 97, 173, 193
Gas Temperature, 8, 44, 62, 97, 193
Gas Turbine Engines, 39, 41, 42, 65, 66, 67, 68, 69, 70, 72, 90, 96
Gas Turbines, 42, 66, 68, 69, 71, 97
Gastrointestinal System, 147
General Aviation Aircraft, 14, 197, 202
General Overviews, 56
Geomagnetism, 161
Geosynchronous Orbits, 50, 103, 128, 215
Glass, 64
Global Positioning System, 12, 203
Goes 8, 103, 128
Goggles, 21, 35
Government/industry Relations, 202
Graph Theory, 166, 214
Graphite, 55
Graphite-epoxy Composites, 59, 61, 99, 194
Gratings (spectra), 175
Gravitational Effects, 147, 148, 149, 150
Greenhouse Effect, 135, 197
Greenland, 108, 146
Grid Generation (mathematics), 33, 43, 46
Grooves, 38, 39, 96, 162
Ground Tests, 32, 34, 96, 134

H

H-infinity Control, 45
Halogen Occultation Experiment, 105, 112, 138, 201
Head Movement, 92
Head-up Displays, 20, 21, 35
Heart Rate, 153
Heat Engines, 70
Heat Exchangers, 149
Heat Flux, 91, 194
Heat Measurement, 91
Heat of Combustion, 91
Heat Transfer, 46, 67, 72, 89, 149, 192
Heat Transfer Coefficients, 97, 193
Heating Equipment, 18
Heavy Lift Helicopters, 22
Heisenberg Theory, 170
Helicopter Control, 15
Helicopters, 12, 18, 20, 21, 22, 35
Heliosphere, 205
Helmet Mounted Displays, 19, 20, 35
Hematopoietic System, 149
Heuristic Methods, 199, 221
Hexyl Compounds, 84, 177, 212
Hierarchies, 159, 160
High Altitude, 150, 151
High Altitude Breathing, 157
High Definition Television, 83, 216
High Energy Electrons, 173, 175, 189
High Frequencies, 83, 173
High Pressure, 173
High Resolution, 52, 107, 113, 207
High Reynolds Number, 39, 44, 96
High Temperature Environments, 54, 90, 213
High Temperature Gas Cooled Reactors, 174
High Temperature Gases, 66
High Temperature Plasmas, 205
High Temperature Superconductors, 170, 171, 177
High Temperature Tests, 8, 9, 62
High Voltages, 51, 84
Hmx, 74
Hole Geometry (mechanics), 60
Holes (mechanics), 26, 60
Hollow Cathodes, 47
Honeycomb Structures, 40, 50, 89, 215
Horizontal Flight, 172
Hormones, 152, 154
Hot Corrosion, 71
Hovering, 172
Hubble Space Telescope, 132
Hulls (structures), 100
Human Factors Engineering, 6, 21, 35, 156, 167, 168
Human Performance, 20, 35, 155
Human-computer Interface, 197, 202
Hydrazines, 92, 219
Hydrocarbon Fuels, 91
Hydrocarbons, 92, 219
Hydrodynamics, 39, 41, 89, 90, 96, 211
Hydrogen, 97, 185
Hydrogen Production, 62, 81, 82
Hydrostatic Pressure, 100
Hydrostatics, 39, 41, 42, 90, 96
Hydroxyl Radicals, 138, 141, 190
Hypersonic Boundary Layer, 90, 188
Hypersonic Flow, 90, 188
Hypersonic Heat Transfer, 90, 188
Hypersonic Vehicles, 90, 188
Hypobaric Atmospheres, 148
Hypothalamus, 154
Hypoxia, 148, 150, 151
Hysteresis, 38, 96, 101, 214

I

Ice, 116, 121, 143
Ice Clouds, 114, 135
Ice Mapping, 137
Ignition, 97, 185, 214
Ignition Systems, 61, 73, 74, 75, 77, 78, 80, 199, 215
Ill-conditioned Problems (mathematics), 199, 218
Image Resolution, 111, 139
Imaging Spectrometers, 111, 126, 139, 144
Imaging Techniques, 65, 103, 128, 138, 176, 210
Immune Systems, 149
Impact Damage, 50, 214, 215
Impact Loads, 60
Impact Prediction, 14
Impact Tests, 50, 60, 215
Implosions, 90, 211
Impregnating, 133, 134
In-flight Monitoring, 16
Incompressible Flow, 2, 38, 91, 162, 194, 197
Inconel (trademark), 37, 47, 78, 96
Indicating Instruments, 20, 35
Inductance, 81, 85
Induction Motors, 46, 195
Inertial Confinement Fusion, 90, 170, 176, 211
Inference, 169, 201
Information Dissemination, 197, 202
Information Flow, 200
Information Management, 181, 201
Information Processing (biology), 156, 168
Information Resources Management, 200
Information Retrieval, 168, 169, 201
Information Systems, 197, 202, 210
Information Transfer, 200
Infrared Detectors, 110, 135
Infrared Instruments, 92, 114
Infrared Interferometers, 52, 107, 125, 141
Infrared Lasers, 92, 95, 106, 128, 141, 175, 189, 198
Infrared Radiation, 50, 52, 83, 105, 106, 107, 113, 114, 115, 135, 143, 207
Infrared Radiometers, 92, 103, 117, 127, 128, 141, 205
Infrared Spectra, 92, 113, 114, 207
Infrared Spectrometers, 50, 105, 126, 128, 141, 144
Infrared Spectroscopy, 116, 143
Inhomogeneity, 104, 142
Initiators (explosives), 73, 74, 75, 76, 77, 78, 79, 84, 199
Injection Lasers, 93, 108, 109, 142
Injectors, 52
Inorganic Materials, 9, 73
Inspection, 24, 25, 97, 162, 163, 221, 222
Instructors, 158, 187, 198, 219
Insulation, 76
Integral Equations, 4
Integrals, 87
Integrated Circuits, 76, 84
Integrated Optics, 175
Integrity, 169, 201
Interacting Galaxies, 204
Intercalation, 55, 59
Interferometers, 80, 83, 92, 112, 113, 139, 143
Intermetallics, 63
Internal Combustion Engines, 61, 97, 193, 215
International Cooperation, 200
International Space Station, 150
Internets, 163
Interplanetary Flight, 53
Interprocessor Communication, 158, 159
Intervals, 61, 215
Inversions, 104, 129, 177, 212
Inviscid Flow, 44
Iodides, 73, 81
Ion Beams, 174, 211
Ion Exchanging, 175
Ionograms, 136
Ionospheric Disturbances, 82, 138
Iron Alloys, 55

Iron Oxides, 55
Irradiation, 174
Irregularities, 169, 201
Ising Model, 170
Isoparametric Finite Elements, 101, 214
Ito (semiconductors), 177, 212
Iue, 161

J

Jaguar Aircraft, 15
Japan, 158, 210, 214
Jet Aircraft Noise, 88
Jet Engines, 13
Jet Flow, 3, 86
Joints (junctions), 47, 79, 95
Journal Bearings, 40, 41, 42, 43, 90, 96, 97

K

Kalman Filters, 92, 110, 138
Kevlar (trademark), 60
Knowledge Representation, 168, 169, 201

L

Labor, 199
Labyrinth Seals, 36
Laminar Wakes, 86
Laminates, 57, 58, 60, 61, 180
Land Ice, 137
Landing Gear, 34, 183
Large Space Structures, 100
Laser Applications, 73, 74, 75, 93, 94, 95, 103, 106, 116, 118, 120, 175, 189
Laser Beams, 118, 139
Laser Cooling, 94, 116
Laser Fusion, 170, 176
Laser Induced Fluorescence, 141, 190
Laser Outputs, 74, 76
Laser Pumping, 93, 108, 109, 142
Laser Spectroscopy, 94, 116
Laser Target Interactions, 90, 211
Lasers, 95, 168
Lateral Control, 5, 15, 151, 156
Leakage, 37, 176, 220
Least Squares Method, 98, 111, 139, 145, 165, 216
Leukocytes, 153
Libraries, 197, 202
Life (durability), 69, 72
Life Support Systems, 157
Lift, 5
Light (visible Radiation), 50, 105
Light Aircraft, 14
Light Beams, 76
Light Emitting Diodes, 177, 212
Light Helicopters, 59
Light Scattering, 104, 142
Lightning, 145, 216, 218, 221
Lightning Suppression, 84
Line Shape, 111, 139
Line Spectra, 95, 110, 111, 135, 139, 197, 198
Linearization, 165, 166
Linguistics, 82
Liquid Crystals, 177, 212, 213
Liquid Hydrogen, 163, 222
Liquid Oxygen, 163, 222
Liquid-solid Interfaces, 91, 178, 197
Lithium, 130
Lithium Sulfur Batteries, 130
Load Carrying Capacity, 22, 101, 214
Load Distribution (forces), 59
Load Tests, 23, 50
Loading Moments, 15
Loading Operations, 134
Loads (forces), 47, 63, 78, 100, 166, 183, 218
Local Area Networks, 83, 163, 218
Logic Design, 166
Logic Programming, 6, 95, 166, 167, 168, 169, 201
Logistics, 135, 195
Long Duration Exposure Facility, 55
Long Term Effects, 152, 154
Longitudinal Control, 151, 156
Low Earth Orbits, 59, 72, 132, 134, 192
Lower Atmosphere, 104, 109, 142
Lungs, 147, 148

M

Mach Number, 2, 3, 46
Machine Learning, 158, 160, 164
Magnetic Coils, 81, 85
Magnetic Field Configurations, 137
Magnetic Fields, 137, 161
Magnetic Materials, 55
Magnetic Suspension, 163, 196
Magnetization, 170
Magnetometers, 161
Management Information Systems, 200
Management Methods, 200
Management Planning, 179
Maneuvers, 35, 171
Manned Maneuvering Units, 18, 48
Manned Space Flight, 150
Manufacturing, 11, 35, 61, 180
Marine Technology, 210
Markarian Galaxies, 208, 209
Mars Pathfinder, 130
Mass Distribution, 50, 215
Mass Flow Rate, 43, 79
Massively Parallel Processors, 158, 159, 163, 196
Matching, 168, 201
Materials Science, 7, 8, 9, 11, 35, 61, 62, 73
Mathematical Logic, 6, 167, 169, 199, 201
Mathematical Models, 9, 21, 25, 27, 38, 51, 62, 72, 79, 97, 99, 101, 129, 133, 134, 159, 163, 169, 173, 178, 193, 199, 201, 221, 222
Mathematical Programming, 163, 164, 167, 169, 196, 201
Matrix Materials, 99
Matter-antimatter Propulsion, 53
Maximum Likelihood Estimates, 31, 98, 174
Measuring Instruments, 46, 95, 166, 183, 195, 198
Mechanical Devices, 50, 77, 79
Mechanical Engineering, 210
Mechanical Properties, 51, 56, 60, 61, 63, 65, 69, 70, 72, 174, 182, 185, 187, 195
Mechanical Shock, 80, 92
Median (statistics), 98
Melting, 178
Mental Performance, 154
Mesosphere, 103, 138
Metabolism, 147
Metal Bonding, 66, 68
Metal Coatings, 177, 212
Metal Ions, 95, 119, 130
Metal Matrix Composites, 56
Metal Plates, 91, 101, 214
Metal Spraying, 90, 213
Metal Surfaces, 26, 63, 90, 173, 213, 218, 219
Meteoroid Showers, 82
Meteorological Instruments, 127, 144
Meteorological Radar, 145, 218
Methane, 127, 141
Methyl Alcohol, 73, 81
Methyl Compounds, 177, 212
Michelson Interferometers, 52, 107, 128, 141
Microbalances, 93, 183
Microelectronics, 83, 213
Microfibers, 131
Microgravity, 147, 150, 200
Microgravity Applications, 200
Microhardness, 65

Micromechanics, 61, 65, 185
Microorganisms, 149
Microstructure, 56, 63, 64, 65, 69, 71, 72, 211
Microwave Frequencies, 111, 139
Microwave Imagery, 108, 146
Microwave Sounding, 123, 144
Microwaves, 157
Middle Atmosphere, 110, 121, 138, 140
Mie Scattering, 104, 142
Military Aircraft, 22, 26, 27, 33, 46
Military Operations, 25
Military Spacecraft, 130
Military Technology, 8, 62
Mimo (control Systems), 31
Mir Space Station, 20, 48, 52
Miss Distance, 14
Missile Bodies, 5
Missile Configurations, 4
Missile Design, 19
Mission Planning, 17, 50, 105, 137
Mixing Ratios, 95, 112, 143, 198
Modal Response, 30, 31, 166
Model Reference Adaptive Control, 164, 186
Modules, 160, 166
Moisture, 58
Moisture Content, 83, 106, 175
Molecular Chains, 65, 72, 211
Molecular Spectroscopy, 94, 116, 125, 141
Molecular Structure, 177, 213
Molecular Weight, 64
Molecules, 174
Molten Salts, 71
Molybdenum Carbides, 63
Molybdenum Disulfides, 64
Moments of Inertia, 22
Momentum, 4, 97, 219
Monomers, 72, 192
Monopole Antennas, 47
Monte Carlo Method, 25, 101
Morphology, 157, 168
Mosaics, 107, 175
Motion Perception, 150
Motion Sickness, 150
Motors, 75
Multiblock Grids, 43
Multidisciplinary Design Optimization, 163, 196
Multigrid Methods, 86
Multipath Transmission, 12
Multiprocessing (computers), 158, 159, 160, 164
Multisensor Fusion, 92, 128
Multispectral Band Scanners, 103, 128
Multispectral Radar, 119, 139

N

NASA Programs, 130, 179, 200, 202, 216
Navier-stokes Equation, 2, 3, 4, 41, 42, 46, 86, 87, 88, 90, 96, 97, 164, 185, 192
Navy, 8, 11, 18, 62
Near Fields, 40, 90
Neodymium Lasers, 92, 93, 105, 106, 138
Neural Nets, 33, 48, 164, 167, 186, 220
Neutron Sources, 170, 176
Neutrons, 170, 176
New Zealand, 52, 107
Newtonian Fluids, 86
Nickel, 133, 134
Nickel Alloys, 63, 68
Nickel Cadmium Batteries, 129, 130, 131, 133, 134
Nickel Compounds, 131
Nickel Hydrogen Batteries, 129, 131, 132, 133, 134
Night Flights (aircraft), 21, 35
Night Vision, 21, 35
Nitinol Alloys, 78
Nitrogen Oxides, 113, 128, 139, 141
Noaa 9 Satellite, 131
Noaa Satellites, 103, 128, 134
Noise Generators, 83, 172, 213
Noise Intensity, 6, 30
Noise Measurement, 47
Noise Pollution, 135
Noise Prediction (aircraft), 4, 172
Noise Propagation, 172
Noise Reduction, 173, 190
Noise Spectra, 81, 85
Nondestructive Tests, 26, 69
Nonflammable Materials, 7
Nonlinear Equations, 6, 215
Nonlinear Systems, 95, 164, 166, 168, 186
Nonlinearity, 88, 173
Normal Density Functions, 174
Nozzle Geometry, 89
Nuclear Fuel Elements, 54
Nuclear Fuels, 53, 174
Nuclear Fusion, 53
Nuclear Heat, 170, 176
Nuclear Propulsion, 54
Nucleate Boiling, 89
Numerical Flow Visualization, 41, 90
Numerical Weather Forecasting, 110, 138
Nuts (fasteners), 47, 78, 79

O

Object-oriented Programming, 156, 158, 159, 160, 162, 168, 169, 181, 201
Ocean Surface, 146
Olivine, 64
On-line Systems, 91, 150, 197, 202, 217
Opacity, 205, 207
Operating Costs, 36
Operating Temperature, 51, 68, 130
Operators (mathematics), 6, 166, 167
Optical Control, 45, 198
Optical Coupling, 107, 175
Optical Data Processing, 49, 220
Optical Density, 8, 62
Optical Disks, 49, 220
Optical Fibers, 83, 107, 175, 213
Optical Materials, 95, 198
Optical Measurement, 121, 140
Optical Measuring Instruments, 95
Optical Paths, 95, 198
Optical Polarization, 177, 212
Optical Properties, 73, 82, 121, 140, 177, 212
Optical Radar, 92, 93, 94, 95, 103, 104, 105, 106, 107, 108, 109, 117, 118, 119, 120, 121, 123, 124, 126, 127, 129, 138, 139, 140, 142, 143, 144, 145, 168
Optical Switching, 127, 141
Optical Thickness, 93, 104, 121, 129, 143
Optical Tracking, 93
Optical Waveguides, 175
Optimal Control, 164, 167, 185, 186
Optimization, 61
Orbital Maneuvers, 176, 220
Ordnance, 50, 73, 74, 75, 78, 199
Organic Compounds, 150, 217
Organizations, 199
Organometallic Polymers, 9, 73
Orientation, 72, 211
Orifices, 39, 96
Outgassing, 8, 59, 62
Oxidation Resistance, 71
Oxides, 62, 82
Oxygen, 111, 139, 148
Oxygen Analyzers, 175
Oxygen Atoms, 72, 192
Oxygen Consumption, 148
Oxygen Masks, 157
Ozone, 94, 105, 119, 124, 125, 135, 138, 139, 140, 141, 181
Ozone Depletion, 93, 107, 110, 135
Ozonometry, 125, 135, 141, 181

P

P-i-n Junctions, 93, 106
Packet Switching, 162
Packets (communication), 162
Panel Method (fluid Dynamics), 6, 191
Panels, 23, 50, 61, 88, 101
Parallel Processing (computers), 33, 158, 159, 163, 196
Parameter Identification, 30, 31, 33, 134
Parametric Amplifiers, 93, 106
Partial Differential Equations, 133
Particle Density (concentration), 119, 139
Particulate Reinforced Composites, 56
Passenger Aircraft, 10, 14
Payload Transfer, 157, 216
Payloads, 48, 52, 92, 117
Pellets, 170, 176
Penumbras, 203
Performance Prediction, 14, 25, 26, 39, 67, 68, 89, 96, 97, 133, 134, 156
Performance Tests, 18, 48, 50, 75, 83, 95, 96, 105, 132, 133, 213
Permanganates, 150, 220
Personal Computers, 161
Personnel, 199
Petn, 91
Phase Error, 12
Phase Transformations, 71, 177, 213
Phased Arrays, 83
Phenyls, 84, 177, 212
Phosphines, 72, 192
Photochemical Reactions, 138
Photodiodes, 93, 95, 106, 168
Photon Density, 174
Photons, 176, 206, 207
Photovoltaic Cells, 52
Physical Exercise, 152, 153, 154
Physiological Effects, 10, 147, 149, 150, 151, 155
Physiological Responses, 150, 152, 153, 154
Piezoelectric Ceramics, 61, 185
Piezoelectric Transducers, 173, 190
Pilotless Aircraft, 34
Pinhole Cameras, 174, 211
Pipelines, 176, 220
Pipes (tubes), 101, 214
Pitching Moments, 3
Pituitary Gland, 147
Pituitary Hormones, 149, 154
Planar Structures, 171, 177
Plasma Acceleration, 53
Plasma Currents, 47
Plasma Density, 54
Plasma Diffusion, 176, 207
Plasma Engines, 53
Plasma Frequencies, 176, 204, 206, 207
Plasma Interactions, 205
Plasma Physics, 176, 207
Plasma Propulsion, 53
Plasma Resonance, 176, 206, 207
Plasma Sheaths, 54
Plasma Spraying, 65, 66, 69, 70, 71
Plasmas (physics), 161
Plasmons, 207
Plastic Deformation, 78
Plastics, 9, 62
Plate Theory, 101, 214
Platelets, 153
Ply Orientation, 60, 61, 194
Pneumothorax, 151
Point Sources, 172
Polar Meteorology, 114, 135
Polar Regions, 93, 103, 107, 114, 135, 138
Polarization (waves), 145, 221
Polarization Characteristics, 176, 207
Pollution Control, 135, 195
Pollution Monitoring, 94, 117
Polyacetylene, 60
Polyimides, 61, 64, 72, 93, 174, 183, 185, 187, 192, 195
Polymer Blends, 9, 10, 62, 73
Polymer Chemistry, 9, 62, 65, 73
Polymer Matrix Composites, 8, 56, 57, 58, 60, 62, 64, 99
Polymeric Films, 62, 73, 81, 82, 84, 93, 171, 183, 212
Polynomials, 5, 98
Polysilanes, 72, 211
Porcelain, 156
Porosity, 2, 69
Portable Equipment, 18, 48
Position (location), 145, 216
Positron Annihilation, 174, 195
Postflight Analysis, 7, 93, 105
Potassium Perchlorates, 74
Potential Flow, 6, 191
Power Spectra, 28, 29
Powered Lift Aircraft, 6, 191
Precipitation (chemistry), 73, 81, 82
Precipitation (meteorology), 142
Precipitation Particle Measurement, 120, 143
Prediction Analysis Techniques, 6, 23, 24, 25, 72, 86, 101, 214, 215
Preforms, 57, 58
Premixing, 97, 185
Pressure Breathing, 157
Pressure Distribution, 2, 3, 5, 42, 90
Pressure Effects, 91, 197
Pressure Gradients, 2
Pressure Vessels, 50, 132, 133
Probability Density Functions, 174
Probability Theory, 25, 102
Problem Solving, 159, 164, 167
Procedures, 200
Process Control (industry), 67, 70, 167, 199
Processing, 11, 35
Product Development, 96
Production Engineering, 134
Production Planning, 167, 199
Productivity, 199
Profiles, 157, 168
Program Verification (computers), 162
Programming Languages, 159
Project Management, 21, 73, 199
Project Seti, 157
Projectiles, 4, 5, 88
Propane, 137
Propeller Slipstreams, 4
Propellers, 99
Propulsion, 20
Propulsion System Configurations, 18, 45, 48
Propulsion System Performance, 53
Protection, 63, 148
Protective Coatings, 37, 67, 90, 96, 192, 202, 213
Protocol (computers), 162
Proton Beams, 174, 211
Protons, 136
Prototypes, 18, 48
Protuberances, 89
Pulmonary Circulation, 148
Pulse Amplitude Modulation, 83, 216
Pulse Doppler Radar, 83
Pulse Duration, 76
Pulse Duration Modulation, 85, 171
Pulsed Lasers, 80, 92, 93, 94, 95, 105, 106, 109, 116, 120, 135, 138, 142, 181
Pyrotechnics, 47, 50, 73, 74, 75, 76, 77, 78, 79, 80, 96, 199

Q

Q Switched Lasers, 94, 108, 109, 142
Qualitative Analysis, 169, 201
Quartz Crystals, 93, 183
Quenching (atomic Physics), 141, 190
Queueing Theory, 12, 164, 210

R

Radar Attenuation, 104, 129
Radar Data, 20, 35, 137, 145, 218
Radar Detection, 145, 218
Radar Echoes, 137
Radar Imagery, 108, 146
Radar Measurement, 93, 94, 95, 107, 108, 118, 119, 120, 124, 126, 127, 137, 139, 140, 142, 144, 145, 146
Radar Receivers, 94, 118
Radar Scattering, 108, 142
Radar Targets, 95, 168
Radar Transmitters, 94, 118
Radiance, 110, 121, 138, 140
Radiant Flux Density, 205
Radiation Absorption, 135, 197
Radiation Effects, 149, 174, 204, 206
Radiation Measurement, 52, 175, 189
Radiation Protection, 72, 150, 192
Radiation Shielding, 76, 84
Radiation Transport, 204, 206
Radiative Transfer, 110, 111, 115, 122, 139, 143, 144, 205, 206
Radio Antennas, 138
Radio Communication, 138
Radio Equipment, 83, 213
Radio Frequencies, 75, 83, 145, 218, 221
Radio Receivers, 138
Radio Signals, 83, 138
Radio Sources (astronomy), 208
Radio Spectroscopy, 83, 106
Radio Transmission, 83, 106, 138
Radio Waves, 83, 113
Radiology, 135
Radiometers, 83, 103, 113, 126, 138, 144
Raman Spectra, 123, 126, 127, 140, 144, 145, 176, 205, 206, 207
Raman Spectroscopy, 94, 117
Rayleigh Scattering, 108, 142
Reaction Kinetics, 55, 71, 97, 141, 186, 190
Reactor Cores, 174, 211
Reactor Design, 54, 174, 211
Reactor Safety, 174, 211
Reactor Startup Tests, 174
Reading, 152, 157
Real Time Operation, 21, 33, 92, 145, 218, 219
Receivers, 12, 107, 175
Rectangular Plates, 100, 101
Red Shift, 204
Reentry Shielding, 6, 30
Reflecting Telescopes, 95
Reflectors, 80, 92, 95
Refractory Materials, 9, 10, 62, 66, 69, 73, 90, 213
Regression Analysis, 27, 146
Regulations, 26
Reinforcing Fibers, 8, 62
Relativistic Effects, 176, 206, 207
Relaxation Oscillators, 81, 85
Reliability, 42, 97, 199, 221
Reliability Analysis, 25, 97, 98, 156
Reliability Engineering, 57
Remote Sensing, 93, 94, 103, 105, 107, 108, 110, 111, 112, 114, 115, 117, 121, 122, 123, 128, 135, 138, 139, 140, 142, 143, 144, 146, 175, 181
Remote Sensors, 11, 18
Remotely Piloted Vehicles, 30, 34
Removal, 150, 220
Rescue Operations, 12, 18, 48
Research Aircraft, 12, 14, 29, 30
Research and Development, 34, 44, 103, 158, 179, 182, 199, 210, 214
Research Projects, 158, 200, 214
Research Vehicles, 34
Residual Strength, 24, 60
Residual Stress, 71, 101, 214
Resin Transfer Molding, 59
Resonance, 85, 94, 117, 171
Resonance Fluorescence, 138
Resonance Scattering, 95, 119, 176, 206
Resources Management, 16
Reusable Launch Vehicles, 50
Reynolds Number, 2, 3, 46, 146
Rhodamine, 174
Rigging, 16
Rigid Structures, 23, 49, 101
Ring Lasers, 127, 145
Ring Structures, 100
Risk, 8, 11, 16, 17, 23, 25, 62, 150
Roads, 95, 120
Robotics, 162, 221
Robots, 158, 160, 162, 164, 221
Rocket Engine Cases, 60
Rocket Engine Design, 52
Rocket Engines, 54
Rocket Nozzles, 52
Rocket Propellants, 92, 219
Rocket Thrust, 53
Roll, 5
Rolling Moments, 15, 16
Root-mean-square Errors, 151, 156
Rotary Wing Aircraft, 4, 17
Rotary Wings, 4
Rotating Shafts, 37, 40, 90, 96
Rotation, 87
Rotational States, 141, 190
Rotor Blades (turbomachinery), 18
Rotor Dynamics, 22, 36, 39, 40, 89, 96
Rotors, 22, 37, 39, 89
Runways, 12

S

S-n Diagrams, 61, 194
Saab Aircraft, 27
Safety Factors, 11, 12, 16, 17
Safety Management, 11, 16, 17
Sampled Data Systems, 112, 201
Sandwich Structures, 59
Satellite Attitude Control, 131
Satellite Communication, 138
Satellite Imagery, 103, 128
Satellite Observation, 121, 143
Satellite Sounding, 103, 104, 128, 138, 142
Satellite-borne Instruments, 50, 103, 104, 105, 110, 125, 129, 135, 137, 138, 141, 142, 180
Scale Effect, 61, 194
Scale Models, 30, 34
Scattering, 12
Scatterometers, 108, 146
Schedules, 25, 97, 155
Scheduling, 12, 167, 199
Schottky Diodes, 84, 212
Schwartz Method, 165
Scientific Satellites, 50, 180
Scintillation, 138
Sea Ice, 108, 146
Sea Level, 146
Sealing, 36, 37
Seals (stoppers), 36, 37, 38, 39, 40, 42, 43, 50, 89, 96, 97, 162
Secondary Flow, 36
Semiconductor Lasers, 74, 75, 108, 142
Semiconductors (materials), 72, 74, 211
Semispan Models, 5
Separated Flow, 2, 87
Separators, 47, 50, 78, 79
Service Life, 24, 36, 57, 68
Set Theory, 169, 201
Shear Flow, 90, 184
Shear Strain, 59, 60
Shear Strength, 99
Shell Theory, 101, 214
Shock Tests, 130
Shock Wave Interaction, 90, 211
Shock Waves, 2, 80, 89, 90, 97, 100, 186, 211
Short Circuits, 131
Short Takeoff Aircraft, 4
Signal Analysis, 85, 171

Signal Distortion, 173
Signal Processing, 83, 138, 216
Signal To Noise Ratios, 134
Signs and Symptoms, 150
Silicates, 64
Silver, 55
Silver Zinc Batteries, 133
Simulation, 51, 187
Simulators, 159, 160, 163, 164
Simultaneous Equations, 6, 215
Single Engine Aircraft, 14
Siso (control Systems), 31, 100
Skin (structural Member), 26, 27
Sky Surveys (astronomy), 204
Skynet Satellites, 131
Sleep Deprivation, 152, 153, 154
Slender Wings, 2, 3
Slots, 12
Smart Structures, 56
Smoke, 10, 155
Sodium, 94, 118
Sodium Chlorides, 63, 218
Sodium Sulfur Batteries, 130
Software Engineering, 158, 159, 160, 162, 166
Software Reuse, 160, 166
Solar Arrays, 51, 52, 54
Solar Cells, 51, 54
Solar Cycles, 83
Solar Eclipses, 203
Solar Interior, 205, 206
Solar Neutrinos, 176, 205, 206
Solar Physics, 176, 205, 207
Solar Spectra, 124, 140
Solar Spectrometers, 113, 207
Solar Wind, 137
Solid Lubricants, 64
Solid Propellant Rocket Engines, 60
Solid State Devices, 80, 92
Solid State Lasers, 74, 92, 94, 106, 109, 118, 127, 142, 145
Solid-solid Interfaces, 72
Solidification, 178
Sound Pressure, 6, 30, 173, 193
Sound Waves, 172, 173
Sounding, 136
Southern Hemisphere, 52, 107
Space Debris, 50, 214, 215
Space Environment Simulation, 50, 214, 215
Space Missions, 20, 48
Space Plasmas, 47, 137, 176, 204, 206, 207
Space Programs, 192, 202
Space Rendezvous, 20, 48
Space Shuttle Orbiters, 48
Space Shuttle Payloads, 48, 93, 105, 157, 163, 216, 222
Space Shuttles, 176, 220
Space Station Structures, 100
Space Transportation System, 18, 48
Space Transportation System Flights, 20, 48, 93, 105
Spaceborne Astronomy, 161
Spaceborne Experiments, 48, 54, 59, 93, 103, 105, 137, 138, 147, 149
Spaceborne Lasers, 92, 106
Spaceborne Telescopes, 93, 95, 105, 138
Spacecraft Charging, 54
Spacecraft Components, 49, 51, 187
Spacecraft Construction Materials, 51, 56, 72, 182, 192
Spacecraft Control, 96
Spacecraft Design, 51, 163, 187, 196
Spacecraft Docking, 20, 48
Spacecraft Environments, 149
Spacecraft Launching, 49, 135, 163, 220, 222
Spacecraft Orbits, 72, 134, 192
Spacecraft Power Supplies, 51, 54, 84, 129, 130, 131, 133, 134
Spacecraft Propulsion, 54
Spacecraft Structures, 100
Spark Ignition, 61, 215
Spatial Resolution, 109, 142, 174, 211
Specific Heat, 97, 193
Specific Impulse, 53
Specifications, 10
Spectra, 113, 207
Spectral Bands, 111, 139
Spectral Reflectance, 111, 139
Spectral Resolution, 111, 118, 120, 124, 139, 140, 143
Spectroscopic Analysis, 50, 105
Spectroscopy, 94, 116
Spectrum Analysis, 114, 124, 126, 135, 136, 140, 144, 197
Speech, 82
Sprayed Coatings, 70, 71
Squid (detectors), 81, 85
Stability Derivatives, 22
Stabilization, 49
Stainless Steels, 47, 79, 173, 219
Standard Deviation, 146
Standardization, 67
Static Characteristics, 5, 85, 171
Static Pressure, 2, 3, 46
Static Tests, 30, 57, 58
Statistical Analysis, 145, 199, 216
Statistical Distributions, 164, 210
Statistical Tests, 107, 175
Stators, 40, 89
Steels, 63, 101, 214, 218
Stellar Cores, 205
Stiffening, 61
Stiffness, 60, 61, 180
Stimuli, 150
Storage Tanks, 50, 221
Stovl Aircraft, 4, 22
Strain Distribution, 59, 60
Strange Attractors, 165
Stratification, 50, 221
Stratified Flow, 50, 221
Stratosphere, 93, 104, 123, 125, 140, 141, 142
Stress Analysis, 98, 99, 102, 156, 188
Stress Corrosion Cracking, 25, 63, 218
Stress Distribution, 23, 27, 40, 90, 98
Stress Functions, 98
Stress Intensity Factors, 25, 27, 102
Stress Tensors, 91, 194
Stress-strain Relationships, 58, 63, 70
Structural Analysis, 23, 24, 25, 26, 47, 50, 58, 61, 72, 78, 79, 97, 98, 99, 101, 214
Structural Design, 47, 50, 56, 57, 59, 78, 79, 105
Structural Design Criteria, 10, 35
Structural Engineering, 210
Structural Failure, 24, 26, 30, 47, 57, 78
Structural Reliability, 57
Structural Strain, 101, 214
Structural Vibration, 28, 29, 30, 31, 32, 33, 34, 46, 173, 190
Struts, 34, 183
Students, 157
Submarines, 100
Subsonic Flow, 4, 42
Subsonic Speed, 2, 3, 42
Substrates Polytetrafluoroethylene, 72, 211
Sulfur Hexafluoride, 84, 110, 135
Sun, 176, 205, 206
Superconducting Films, 171, 177
Superposition (mathematics), 100, 101
Supersonic Aircraft, 157
Supersonic Combustion, 97, 186
Supersonic Flow, 2, 4, 88
Supersonic Speed, 6, 30, 89
Supersonic Transports, 34, 183, 188
Surface Cracks, 26, 71, 102, 188
Surface Defects, 173, 219
Surface Noise Interactions, 88
Surface Temperature, 123, 144
Surface Treatment, 90, 213
Switching, 74
Synchronous Platforms, 103, 128

Synthesis (chemistry), 72, 187, 192
System Effectiveness, 62, 82, 131
System Failures, 131
System Identification, 17, 33
Systems Engineering, 166, 210
Systems Integration, 45, 80

T

Tables (data), 199
Tail Assemblies, 34, 188
Takeoff, 5
Tdr Satellites, 48
Technological Forecasting, 9, 62
Technology Assessment, 9, 62, 73, 92, 106, 129, 134, 210
Technology Transfer, 181, 182, 192, 199, 201, 202, 210
Technology Utilization, 192, 202, 210
Teeth, 156
Teflon (trademark), 55
Telerobotics, 92
Television Transmission, 83, 216
Temperature Control, 55, 149
Temperature Dependence, 55, 99, 132, 141, 190
Temperature Effects, 66, 70, 130, 131, 134
Temperature Measurement, 95, 119, 127, 145
Temperature Profiles, 46, 94, 118, 192
Temporal Resolution, 114, 135, 174, 211
Tensile Strength, 61, 70, 71, 194
Tensile Stress, 50, 101, 214
Tensile Tests, 58, 70, 71
Terms, 168, 201
Terrain Following, 20, 35
Test Chambers, 46
Test Equipment, 21
Test Pilots, 12
Textiles, 10, 73
Theoretical Physics, 128
Thermal Analysis, 39, 54, 89
Thermal Conductivity, 70, 71
Thermal Control Coatings, 65, 66, 67, 68, 69, 70, 71, 72, 90, 213
Thermal Cycling Tests, 52, 58, 70, 71, 130
Thermal Degradation, 78
Thermal Diffusivity, 70
Thermal Energy, 91
Thermal Environments, 149
Thermal Expansion, 64
Thermal Fatigue, 65, 67, 68, 69, 70, 71, 99
Thermal Plasmas, 207
Thermal Protection, 6, 30, 66, 68, 76, 84, 90, 188
Thermal Radiation, 110, 135, 205
Thermal Reactors, 54
Thermal Stability, 10, 73
Thermal Stresses, 50, 69, 71, 72
Thermocouples, 44
Thermodynamic Properties, 39, 70, 72, 89, 187
Thermodynamics, 178
Thermoplastic Resins, 192, 202
Thermoplasticity, 72, 187
Thermosetting Resins, 64, 174, 195
Thermosphere, 95, 103, 105, 119, 138
Thesauri, 168, 201
Thick Plates, 91
Thin Films, 65, 93, 171, 176, 177, 183, 210, 213
Thin Walled Shells, 50, 215
Thin Walls, 101, 214
Thiophenes, 84, 177, 212
Thomson Scattering, 176, 205, 207
Three Dimensional Boundary Layer, 87
Three Dimensional Flow, 39, 41, 42, 89, 90, 164, 173, 185, 193
Three Dimensional Models, 5, 97, 98, 102, 115, 143, 186, 188
Throats, 89
Thrombin, 150, 151
Thrust Augmentation, 53
Thrust Bearings, 40, 96
Thrust Chambers, 52
Thrust Loads, 4
Thrust Vector Control, 4, 18, 19
Thunderstorms, 145, 218, 221
Tiles, 6, 30, 162, 221
Tilt Rotor Aircraft, 172
Time Dependence, 51, 86, 155, 187
Time Marching, 86
Time Measurement, 203
Time Series Analysis, 108, 115, 142, 143, 146
Tiros Satellites, 134
Tissues (biology), 147
Titanium, 74, 173, 219
Tolerances (mechanics), 23, 25, 26
Torque, 4
Toxic Hazards, 7, 10, 155
Toxicity, 7, 10, 92, 155, 219
Trace Elements, 112, 125, 138, 141, 143
Tracking Problem, 92
Tradeoffs, 171, 199
Trailing Edge Flaps, 173, 193
Training Aircraft, 14, 25, 28
Training Evaluation, 198, 219
Trajectory Planning, 163, 222
Transfer Functions, 31
Transient Loads, 72
Transient Response, 39, 89
Transmission Electron Microscopy, 173, 176, 210
Transmission Rate (communications), 83, 106
Transonic Flow, 46, 87
Transonic Speed, 6, 30
Transonic Wind Tunnels, 6, 31, 46
Transport Aircraft, 27, 32, 45, 46, 198
Transport Properties, 176, 207
Transport Theory, 176, 206, 207
Transportation, 89
Transverse Loads, 61, 194
Trends, 22
Troposphere, 83, 94, 104, 105, 106, 119, 123, 125, 127, 137, 138, 140, 141, 142, 145
Tunable Lasers, 94, 95, 116, 128, 135, 141, 143, 181, 198
Turbine Blades, 44, 65, 66, 68, 69, 97, 219
Turbine Engines, 36, 37, 44
Turbine Exhaust Nozzles, 68
Turbine Pumps, 37, 42, 96, 97
Turbines, 41, 90, 97, 219
Turbocompressors, 43
Turbofan Aircraft, 14
Turbofan Engines, 13
Turbomachinery, 36, 43, 44
Turbulence, 40, 90
Turbulence Effects, 21
Turbulence Models, 2, 85, 87, 90, 184
Turbulent Boundary Layer, 2, 86, 87, 89, 91, 101, 197
Turbulent Flow, 4, 87, 90, 91, 184, 194, 197
Turbulent Heat Transfer, 85
Turbulent Mixing, 90, 211
Turbulent Wakes, 90, 184
Two Dimensional Models, 97, 174, 186, 211

U

U-2 Aircraft, 13
Uh-60a Helicopter, 15
Ultrasonic Cleaning, 173, 219
Ultrasonic Radiation, 173
Ultraviolet Radiation, 136, 197
Ultraviolet Spectra, 124, 140
Umbras, 203
United Kingdom, 26
United States, 199
Universities, 179, 210, 214

Unsteady Aerodynamics, 1, 30, 32, 33, 44, 46, 99
Unsteady Flow, 44, 99
Unstructured Grids (mathematics), 46, 87, 192
Upgrading, 164, 169, 201, 217
Upper Atmosphere, 137
Upper Atmosphere Research Satellite (uars), 131
Upper Surface Blowing, 3
Urban Planning, 172

V

V/stol Aircraft, 12, 20
Vacuum, 38
Valves, 96
Van Der Waals Forces, 170
Vanes, 28
Vapor Deposition, 65, 66, 68, 69, 70
Variational Principles, 110, 138
Vector Spaces, 165
Vegetation Growth, 150, 220
Velocity Distribution, 40, 90, 91, 197
Velocity Measurement, 80, 92
Venus Atmosphere, 205
Vertical Distribution, 124, 140
Vertical Orientation, 108, 142
Very Long Base Interferometry, 203
Vibration, 50, 180
Vibration Damping, 28, 31, 61, 173, 185, 190
Vibration Effects, 50, 180
Vibration Tests, 29, 31, 32, 130
Video Data, 83, 216
Viewing, 176, 210
Virtual Reality, 92
Viscous Flow, 44, 87, 90, 164, 185, 188
Visible Spectrum, 124, 140
Visual Tasks, 155
Voice Communication, 82
Voice Data Processing, 82
Voltage Regulators, 81, 85, 171
Vortex Avoidance, 6
Vortex Generators, 2
Vortices, 2, 3, 6, 86
Vorticity, 173, 193
Voyager 1 Spacecraft, 205
Voyager 2 Spacecraft, 205

W

Wall Flow, 85, 87
Wall Pressure, 40, 90
Wall Temperature, 90, 213
Water Splitting, 62, 81, 82
Water Vapor, 83, 95, 105, 106, 108, 111, 116, 120, 123, 126, 127, 138, 139, 141, 142, 143, 144, 145, 190, 198
Water Waves, 146
Wave Functions, 173
Wave Interaction, 89, 91, 100, 101, 136
Wavelengths, 94, 118, 176, 207
Wavelet Analysis, 166
Weapon Systems, 11, 14, 18, 73
Weapons Delivery, 14
Wear, 37, 96
Wear Resistance, 37, 38, 96
Wear Tests, 37, 38, 96
Weather, 6
Weather Forecasting, 145, 218
Weibull Density Functions, 98
Weight (mass), 163, 196
Weightlessness Simulation, 147, 148, 149
Welded Structures, 101, 214
Wind Effects, 146
Wind Measurement, 94, 103, 108, 109, 142
Wind Profiles, 109, 142
Wind Shear, 109, 142
Wind Tunnel Models, 21, 30, 35, 190
Wind Tunnel Stability Tests, 87
Wind Tunnel Tests, 2, 3, 5, 6, 28, 30, 31, 35, 190
Wind Tunnels, 46, 195
Wing Flaps, 35, 190
Wing Panels, 26
Wing Tips, 5
Wings, 1, 5, 27
Wings Fuselages, 26
Wire, 89
Wire Bridge Circuits, 75
Wireless Communication, 83, 218
Wool, 10, 73
Words (language), 168, 201
Work-rest Cycle, 155
Woven Composites, 59
Wrought Alloys, 78

X

X Ray Absorption, 203
X Ray Sources, 208
X Ray Spectra, 203
X-31 Aircraft, 18

Y

Yag Lasers, 92, 93, 94, 105, 106, 108, 109, 116, 118, 135, 138, 142, 143, 181
Yaw, 11, 17
Ybco Superconductors, 170, 171, 177
Ylf Lasers, 128, 141
Yttria-stabilized Zirconia, 68, 70, 71

Z

Zinc, 63
Zirconium Hydrides, 174, 211
Zirconium Oxides, 70