

Table of Contents for Volume

- Mach's Principle, 1355
Magnetic Circular Dichroism, 1356
Magnetic Cooling, 1359
Magnetic Domains and Bubbles, 1366
Magnetic Fields, High, 1372
Magnetic Materials, 1379
Magnetic Moments, 1385
Magnetic Monopoles, 1389
Magnetic Ordering in Solids, 1392
Magnetoacoustic Effect, 1396
Magnetoelastic Phenomena, 1398
Magnetohydrodynamics, 1401
Magnetoresistance, 1412
Magnetosphere, 1415
Magnetostriction, 1421
Magnets (Permanent) and
 Magnetostatics, 1425
Many-Body Theory, 1428
Masers, 1440
Mass, 1447
Mass Spectroscopy, 1448
Matrices, 1454
Maxwell–Boltzmann Statistics, 1463
Maxwell's Equations, 1464
Mechanical Properties of Matter, 1467
Mesons, 1473
Mesoscopic Physics, 1474
Metal–Insulator Transitions, 1477
Metallurgy, 1482
Metals, 1485
Meteorology, 1486
Metrology, 1490
Michelson–Morley Experiment, 1493
Microscopy, Optical, 1496
Microwave Spectroscopy, 1508
Microwaves and Microwave Circuitry, 1512
Milky Way, 1520
Molecular Spectroscopy, 1522
Molecular Structure Calculations, 1600
Molecules, 1615
Molten Salts, 1622

e 2

- Moment of Inertia, 1626
Momentum, 1633
Monte Carlo Techniques, 1635
Mössbauer Effect, 1642
Multipole Fields, 1659
Muonic, Mesonic, and Other Exotic Atoms, 1662
Muonium, 1667
Musical Instruments, 1671
Nanobionics, 1677
Nanocatalysis, 1681
Network Theory: Analysis and Synthesis, 1686
Neutrinos, 1700
Neutron Diffraction and Scattering, 1705
Neutron Spectroscopy, 1714
Neutron Stars, 1721
Newton's Laws, 1725
Noise, Acoustical, 1728
Nonlinear Wave Propagation, 1731
Novel Particle Acceleration Methods, 1734
Nuclear Fission, 1739
Nuclear Forces, 1751
Nuclear Fusion, 1756
Nuclear Magnetic Resonance, 1766
Nuclear Moments, 1771
Nuclear Polarization, 1774
Nuclear Properties, 1778
Nuclear Quadrupole Resonance, 1788
Nuclear Reactions, 1792
Nuclear Reactors, 1798
Nuclear Scattering, 1804
Nuclear States, 1807
Nuclear Structure, 1810
Nucleon, 1820
Nucleosynthesis, 1822
Operators, 1829
Optical Activity, 1832
Optical Pumping, 1834
Optics, Geometrical, 1838
Optics, Nonlinear, 1841

Optics, Physical,	1846
Optics, Statistical,	1852
Order–Disorder Phenomena,	1857
Organic Conductors and Superconductors,	1861
Organic Semiconductors,	1866
Oscilloscopes,	1877
Paramagnetism,	1881
Parity,	1882
Partial Waves,	1895
Partons,	1899
Phase Transitions,	1901
Philosophy of Physics,	1921
Phonons,	1926
Photoconductivity,	1930
Photoelastic Effect,	1931
Photoelectron Spectroscopy,	1933
Photoionization,	1942
Photon,	1944
Photonic Crystals,	1948
Photonuclear Reactions,	1953
Photosphere,	1956
Photovoltaic Effect,	1958
Piezoelectric Effect,	1959
Plasma Confinement Devices,	1961
Plasmas,	1975
Plasma Waves,	1984
Plasmons,	1991
Polarizability,	1995
Polarization,	1998
Polarized Light,	2000
Polaron,	2004
Polymers,	2028
Positron,	2045
Positron Annihilation in Condensed Matter,	2047
Positron–Electron Colliding Beams,	2050
Positronium,	2055
Precession,	2059
Probability,	2061
Proton,	2067
Pulsars,	2068
Pyroelectricity,	2072
Quantum Information,	2077
Quantum Electrodynamics,	2083

- Quantum Field Theory, 2095
Quantum Fluids, 2105
Quantum Mechanics, 2111
Quantum Optics, 2128
Quantum Statistical Mechanics, 2134
Quantum Structures in
 Semiconductors, 2138
Quantum Theory of Measurement, 2144
Quarkonium, 2152
Quarks, 2158
Quasars, 2163
Quasiparticles, 2168
Radar, 2171
Radiation Belts, 2174
Radiation Chemistry, 2177
Radiation Damage in Solids, 2181
Radiation Detection, 2187
Radiation Interaction with Matter, 2192
Radioactivity, 2196
Radiochemistry, 2200
Radiological Physics, 2205
Radiometry, 2217
Raman Spectroscopy, 2221
Rare Earths, 2227
Rare Gases and Rare-Gas Compounds, 2231
Rayleigh Scattering, 2235
Reflection, 2236
Reflection High-Energy Electron Diffraction
 (RHEED), 2240
Refraction, 2241
Regge Poles, 2247
Relativity, General, 2249
Relativity, Special Theory, 2257
Relaxation Phenomena, 2274
Renormalization, 2278
Resistance, 2283
Resonance Phenomena, 2285
Resonances, Giant, 2291
Rheology, 2298
Rotation and Angular Momentum, 2310
S-Matrix Theory, 2333
Scanning Tunneling Microscopy, 2337
Scattering Theory, 2339
Schrödinger Equation, 2347
Scintillation and Čerenkov Counters, 2348

- Second Sound, 2353
Secondary Electron Emission, 2354
Sedimentation and Centrifugation, 2357
Seismology, 2361
Semiconductor Radiation Detectors, 2369
Semiconductors, Amorphous, 2377
Semiconductors, Crystalline, 2393
Servomechanism, 2410
Shock Waves and Detonations, 2411
Soil Physics, 2418
Solar Energy, 2421
Solar Neutrinos, 2442
Solar System, 2451
Solar Wind, 2456
Solid-State Physics, 2459
Solid-State Switching, 2472
Solitons, 2483
Sound, Underwater, 2485
Space Science and Technology, 2488
Spacetime, 2494
Spectrophotometry, 2500
Spin, 2502
Statics, 2509
Statistical Mechanics, 2511
Statistics, 2519
Stellar Energy Sources and Evolution, 2524
Stochastic Processes, 2531
String Theory, 2539
Strong Interactions, 2551
Sum Rules, 2556
Sun, 2560
Superconducting Materials, 2565
Superconductive Devices, 2571
Superconductivity Theory, 2580
Superheavy Elements, 2591
Supersymmetry and Supergravity, 2598
Surface Tension, 2605
Surface Waves on Fluids, 2607
Surfaces and Interfaces, 2609
 $SU(3)$ and Symmetry Groups, 2613
Symbols, Units, and Nomenclature,
2619
Symmetry Breaking, Spontaneous, 2642
Synchrotron, 2650
Synchrotron Radiation, 2659

Tachyons, 2667
Temperature, 2668
Thermal Analysis, 2671
Thermal Expansion, 2674
Thermionic Emission, 2678
Thermodynamic Data, 2682
Thermodynamics, Equilibrium, 2684
Thermodynamics, Nonequilibrium, 2689
Thermoelectric Effects, 2701
Thermoluminescence, 2705
Thermometry, 2720
Thin Films, 2727
Three-Body Problem, Gravitational, 2734
Three-Body Problem, Quantum Mechanical, 2737
Time, 2741
Transducers, 2744
Transistors, 2746
Transition Elements, 2756
Transmission Lines and Antennas, 2760
Transport Properties, 2766
Transport Theory, 2771
Transuranium Elements, 2774
Tribology, 2780
Tunneling, 2783
Turbulence, 2789
Twin Paradox, 2796
Ultracold Quantum Gases, 2799
Ultrahigh-Pressure Techniques, 2803
Ultrashort Optical Pulses, 2816
Ultrasonic Biophysics, 2820
Ultrasonics, 2822
Uncertainty Principle, 2829
Universe, 2832
Vacuums and Vacuum Technology, 2837
Vapor Pressure, 2846
Vector and Tensor Analysis, 2848
Vibrations, Mechanical, 2854
Viscosity, 2856
Visible and Ultraviolet Spectroscopy, 2860
Vision and Color, 2866
Vortices, 2884
Water, 2891
Waves, 2893
Weak Interactions, 2900

- Weak Neutral Currents, 2908
Whiskers, 2913
Work Function, 2914

X-Ray Spectra and X-Ray
Spectroscopy, 2917
Zeeman and Stark Effects, 2927