

Subject Index of Volume 68

- Ab initio calculations
polymer and salt selection for lithium polymer batteries, 43
- Absorption resistance
effect of the lithium content on electrochemical lithium intercalation into amorphous and crystalline powdered $\text{Li}_{1-x}\text{Mn}_2\text{O}_4$ electrodes prepared by sol–gel method, 593
- Additives
effect of polysulfide-containing electrolyte on the film formation of the negative electrode, 328
improvement in lithium cycling efficiency by using additives in lithium metal, 476
improvement in lithium cycling efficiency by using additives in lithium metal, 476
- Aggregation
helical aggregate formation of cholate salts in poly(*N*-vinyl-2-pyrrolidinone) gel and its effect on conductivity enhancement, 364
- Alternating current impedance
unique charge/discharge properties of carbon materials with different structures, 271
- Aluminum alloys
studies of Al–Al₃Ni eutectic mixtures as insertion anodes in rechargeable lithium batteries, 506
- Aluminum protection
corrosion of aluminum at high voltages in non-aqueous electrolytes containing perfluoroalkylsulfonfyl imides, new lithium salts for lithium-ion cells, 320
- Amorphous oxides
new amorphous oxides as high capacity negative electrodes for lithium batteries: the Li_xMVO_4 ($M = \text{Ni, Co, Cd, Zn, } 1 < x \leq 8$) series, 692
- Analysis-of-variance (ANOVA)
the study of carbon half-cell voltage in lithium-ion secondary batteries, 242
- Analytical techniques
recent studies on the correlation between surface chemistry, morphology, three-dimensional structures and performance of Li and Li–C intercalation anodes in several important electrolyte systems, 91
- Anode materials
graphite multilayer thin films: a new anode material for Li-ion microbatteries synthesis and characterization, 204
study on C₂N and C₂S with disordered carbon structure as the anode materials for secondary lithium batteries, 245
electrochemical studies of a new anode material, $\text{Li}_{1-x}\text{M}_x\text{N}$ ($M = \text{Co, Ni, Cu}$), 510
- Anodes
a key technology to improve the cyclic performances of carbonaceous materials for lithium secondary battery anodes, 114
pyrolysed silicon-containing polymers as high capacity anodes for lithium-ion batteries, 195
X-ray photoelectron spectroscopy analyses of lithium intercalation and alloying reactions on graphite electrodes, 208
development of 1 kWh (300 Ah) class lithium-ion battery, 448
- studies of Al–Al₃Ni eutectic mixtures as insertion anodes in rechargeable lithium batteries, 506
anode performance of a new layered nitride $\text{Li}_{1-x}\text{Co}_x\text{N}$ ($x = 0.2–0.6$), 515
- Batteries
graphite electrodes with tailored porosity for rechargeable ion-transfer batteries, 267
- Battery module
the 200 V 2 kWh energy storage multicell system with 25 Wh Li/LiV₃O₈ single cells, 78
- Battery voltage
ab initio calculation of the intercalation voltage of lithium-transition-metal oxide electrodes for rechargeable batteries, 664
- Benzene
improvement in lithium cycling efficiency by using additives in lithium metal, 476
- Binders
electrochemical and X-ray photospectroscopy studies of polytetrafluoroethylene and polyvinylidene fluoride in Li/C batteries, 344
performance study of the LiCoO₂/graphite system, 440
- Bis-perfluoroalkylsulfonfyl imide salts
corrosion of aluminum at high voltages in non-aqueous electrolytes containing perfluoroalkylsulfonfyl imides: new lithium salts for lithium-ion cells, 320
- Calorimetry
thermal studies of a lithium-ion battery, 451
- Capacity
great reversible capacity of carbon lithium electrode in solid polymer electrolyte, 236
development of 1 kWh (300 Ah) class lithium-ion battery, 448
- Capacity loss
irreversible capacity loss of graphite electrode in lithium-ion batteries, 187
kinetic analysis of capacity fade in lithium/coke half-cells, 191
- Carbon
recent trends in carbon negative electrode materials, 99
high-capacity lithium-ion cells using graphitized mesophase-pitch-based carbon fiber anodes, 102
hysteresis observed in quasi open-circuit voltage measurements of lithium insertion in hydrogen-containing carbons, 201
great reversible capacity of carbon lithium electrode in solid polymer electrolyte, 236
study on C₂N and C₂S with disordered carbon structure as the anode materials for secondary lithium batteries, 245
nanostructure criteria for lithium intercalation in non-doped and phosphorus-doped hard carbons, 258
high capacity carbon anode materials: structure, hydrogen effect, and stability, 296
electrochemical intercalation of lithium into carbons using a solid polymer electrolyte, 368

- new lithium-ion conducting compounds $3\text{Li}_3\text{N-MI}$ ($\text{M} = \text{Li}, \text{Na}, \text{K}, \text{Rb}$) and their application to solid-state lithium-ion cells, 416
- Carbonaceous materials
a key technology to improve the cyclic performances of carbonaceous materials for lithium secondary battery anodes, 114
- Carbon anodes
anode characteristics of non-graphitizable carbon fibers for rechargeable lithium-ion batteries, 263
anodic behavior of a carbon plate in an LiCl-KCl binary molten salt, 348
- Carbon dioxide
effect of carbon dioxide on lithium anode cycleability with various substrates, 497
- Carbon fibers
high-capacity lithium-ion cells using graphitized mesophase-pitch-based carbon fiber anodes, 102
chemical passivation of lithiated graphitized mesocarbon fibers, 239
anode characteristics of non-graphitizable carbon fibers for rechargeable lithium-ion batteries, 263
unique charge/discharge properties of carbon materials with different structures, 271
- Carbon fluoride
low-temperature carbon fluoride for high power density lithium primary batteries, 708
- Carbon materials
low-crystallized carbon materials for lithium-ion secondary batteries, 212
- Carbon negative electrodes
irreversible capacity loss of graphite electrode in lithium-ion batteries, 187
- Carbon structure
real-time X-ray diffraction measurement of carbon structure during lithium-ion intercalation, 249
- Cathode active materials
synthesis and electrochemical properties for LiNiO_2 substituted by other elements, 553
low temperature synthesis and electrochemical characteristics of LiFeO_2 cathodes, 711
- Cathode degradation
performances of $\text{Li/Li}_x\text{CoO}_2$ cells in $\text{LiAlCl}_4 \cdot 3\text{SO}_2$ electrolyte, 338
- Cathode materials
organosulfur polymer batteries with high energy density, 135
microvoltammetric studies on single particles of battery active materials, 139
new inverse spinel cathode materials for rechargeable lithium batteries, 159
microwave synthesis of LiCoO_2 cathode materials, 530
preparation and electrochemical investigation of $\text{LiMn}_{2-x}\text{Me}_x\text{O}_4$ ($\text{Me} = \text{Ni}, \text{Fe}$, and $x = 0.5, 1$) cathode materials for secondary lithium batteries, 604
spectroscopic identification of 2,5-dimercapto-1,3,4-thiadiazole and its lithium salt and dimer forms, 739
- Cathodes
new and optimised lithium manganese oxide cathodes for rechargeable lithium batteries, 19
development of 1 kWh (300 Ah) class lithium-ion battery, 448
synthesis and electrochemical characteristics of $\text{Li}(\text{Ni} \cdot \text{M})\text{O}_2$ ($\text{M} = \text{Co}, \text{Mn}$) cathode for rechargeable lithium batteries, 545
the effects of the stoichiometry and synthesis temperature on the preparation of the inverse spinel LiNiVO_4 and its performance as a new high voltage cathode material, 549
synthesis and properties of gallium-doped LiNiO_2 as the cathode material for lithium secondary batteries, 561
influence of morphology on the stability of LiNiO_2 , 565
electrochemistry of LiMnO_2 over an extended potential range, 618
ab initio calculation of the intercalation voltage of lithium-transition-metal oxide electrodes for rechargeable batteries, 664
synthesis and characterization of a new trimetallic cathode material for lithium batteries, 730
- Charge-transfer resistance
a.c. impedance analysis of electrochemical lithium intercalation into highly oriented pyrolytic graphite, 227
- Chemical diffusivity
electrochemical lithium intercalation into and de-intercalation from porous LiCoO_2 electrode by using potentiostatic current transient technique, 524
- Chemical lithiation
chemical passivation of lithiated graphitized mesocarbon fibers, 239
- Chemical method
intercalation of lithium into natural graphite flakes and heat-treated polyimide films in ether-type solvents by chemical method, 216
- Chemical vapour deposition
thin film solid electrolytes and electrodes for rechargeable lithium-ion batteries, 65
- Cholate salts
helical aggregate formation of cholate salts in poly(*N*-vinyl-2-pyrrolidinone) gel and its effect on conductivity enhancement, 364
- Cobalt
new inverse spinel cathode materials for rechargeable lithium batteries, 159
in situ Raman spectroscopic study of Li_xCoO_2 electrodes in propylene carbonate solvent systems, 333
performances of $\text{Li/Li}_x\text{CoO}_2$ cells in $\text{LiAlCl}_4 \cdot 3\text{SO}_2$ electrolyte, 338
all oxide solid-state lithium-ion cells, 412
anode performance of a new layered nitride $\text{Li}_{3-x}\text{Co}_x\text{N}$ ($x = 0.2-0.6$), 515
influence of the LiCoO_2 particle size on the performance of lithium-ion batteries, 533
electrochemical characterization of thin-film LiCoO_2 electrodes in propylene carbonate solutions, 540
synthesis and electrochemical characteristics of $\text{Li}(\text{Ni} \cdot \text{M})\text{O}_2$ ($\text{M} = \text{Co}, \text{Mn}$) cathode for rechargeable lithium batteries, 545
 $\text{LiMn}_{2-x}\text{Co}_x\text{O}_4$ cathode with enhanced cycleability, 578
- Cobalt nitride
electrochemical studies of a new anode material, $\text{Li}_{1-x}\text{M}_x\text{N}$ ($\text{M} = \text{Co}, \text{Ni}, \text{Cu}$), 510
- Cobalt oxide
development of 10 Wh class lithium secondary cells in the 'New Sunshine Program', 13
- Cobalt oxyhydroxide
 $\text{LiNi}_{1-x}\text{Co}_x\text{O}_2$ prepared at low temperature using $\beta\text{-Ni}_{1-x}\text{Co}_x\text{OOH}$ and either LiNO_3 or LiOH , 126
- Cobalt substitution
synthesis and electrochemical properties for LiNiO_2 substituted by other elements, 553
- Co-intercalation
intercalation of lithium into natural graphite flakes and heat-treated polyimide films in ether-type solvents by chemical method, 216
- Coke
kinetic analysis of capacity fade in lithium/coke half-cells, 191
- Concentration dependence
application of the microelectrode technique to the kinetic study of lithium deposition/dissolution and alloying in organic solutions, 483
- Conductivities
properties and potential application of silica-gelled electrolytes for lithium-ion batteries, 387
- Conductivity
on the characteristics of electrolytes with new lithium imide salts, 307
helical aggregate formation of cholate salts in poly(*N*-vinyl-2-pyrrolidinone) gel and its effect on conductivity enhancement, 364
microelectrode investigation of the lithium redox behavior in plasticized polymer electrolytes, 487

- Conductors
performance study of the $\text{LiCoO}_2/\text{graphite}$ system, 440
- Copper
synthesis and characterization of a new trimetallic cathode material for lithium batteries, 730
- Copper nitride
electrochemical studies of a new anode material, $\text{Li}_{1-x}\text{M}_x\text{N}$ ($\text{M} = \text{Co}, \text{Ni}, \text{Cu}$), 510
- Coulombic efficiency
in situ scanning vibrating electrode technique for lithium metal anodes, 501
- Cross-linked polyethers
polymer and salt selection for lithium polymer batteries, 43
- Crystal-phase transition
thermal studies of a lithium-ion battery, 451
- Crystal structure
graphite structure and lithium intercalation, 291
synthesis and properties of gallium-doped LiNiO_2 as the cathode material for lithium secondary batteries, 561
- Crystal structure changes
observation of structure change due to discharge/charge process of V_2O_5 prepared by ozone oxidation method, using in situ X-ray diffraction technique, 674
- Current collectors
electrochemical characterization of various metal foils as a current collector of positive electrode for rechargeable lithium batteries, 301
corrosion of aluminum at high voltages in non-aqueous electrolytes containing perfluoroalkylsulfonfyl imides; new lithium salts for lithium-ion cells, 320
- Current transient
electrochemical lithium intercalation into and de-intercalation from porous LiCoO_2 electrode by using potentiostatic current transient technique, 524
- Cycleability
design and performance of 10 Wh rechargeable lithium batteries, 436
effect of carbon dioxide on lithium anode cycleability with various substrates, 497
 $\text{LiMn}_{2-x}\text{Co}_x\text{O}_4$ cathode with enhanced cycleability, 578
- Cycle life
performance characteristics of lithium-ion cells using in situ polymerized electrolytes, 352
- Cycle performances
more details on the new LiMnO_2 rechargeable battery technology developed at Tadiran, 443
- Cyclic performances
a key technology to improve the cyclic performances of carbonaceous materials for lithium secondary battery anodes, 114
- Cyclic voltammetry
recent studies on the correlation between surface chemistry, morphology, three-dimensional structures and performance of Li and Li-C intercalation anodes in several important electrolyte systems, 91
microvoltammetric studies on single particles of battery active materials, 139
- Cyclic voltammogram
unique charge/discharge properties of carbon materials with different structures, 271
- Cycling behavior
irreversible capacity loss of graphite electrode in lithium-ion batteries, 187
observation of structure change due to discharge/charge process of V_2O_5 prepared by ozone oxidation method, using in situ X-ray diffraction technique, 674
- Cycling behaviour
studies of LiNiO_2 in lithium-ion batteries, 558
- Cycling efficiency
electrolyte for high voltage $\text{Li}/\text{LiMn}_{1.9}\text{Co}_{0.1}\text{O}_4$ cells, 316
improvement in lithium cycling efficiency by using additives in lithium metal, 476
- Dead lithium
improvement in lithium cycling efficiency by using additives in lithium metal, 476
- Dendritic lithium
improvement in lithium cycling efficiency by using additives in lithium metal, 476
- Diethyl carbonate
chemical properties of various organic electrolytes for lithium rechargeable batteries 1. Characterization of passivating layer formed on graphite in alkyl carbonate solutions, 59
- Diffusion
electrochemical impedance spectroscopy studies of lithium diffusion in doped manganese oxide, 634
- Diffusion coefficient
application of the microelectrode technique to the kinetic study of lithium deposition/dissolution and alloying in organic solutions, 483
electrochemical characterization of thin-film LiCoO_2 electrodes in propylene carbonate solutions, 540
observation of structure change due to discharge/charge process of V_2O_5 prepared by ozone oxidation method, using in situ X-ray diffraction technique, 674
- Diffusivity
effect of the lithium content on electrochemical lithium intercalation into amorphous and crystalline powdered $\text{Li}_{1+x}\text{Mn}_2\text{O}_4$ electrodes prepared by sol-gel method, 593
- Dimethyl carbonate
studies of petroleum coke in carbonate-based electrolyte, 232
analysis of surface films on lithium in various organic electrolytes, 471
- Discharge
discharge characteristics of an Li/LiCoO_2 cell with poly(acrylonitrile)-based polymer electrolyte, 361
- Discharge potential
low-crystallized carbon materials for lithium-ion secondary batteries, 212
- Disordered carbons
 ^7Li NMR and ESR analysis of lithium storage in a high-capacity perylene-based disordered carbon, 283
- Disordered carbon structure
study on C_xN and C_xS with disordered carbon structure as the anode materials for secondary lithium batteries, 245
- Disposal
safety and reliability considerations for lithium batteries, 75
- Disulfides
new type polyamides containing disulfide bonds for positive active material of lithium secondary batteries, 735
- Electricity
global energy prospects in the 21st century: a battery-based society, 3
- Electric vehicles
global energy prospects in the 21st century: a battery-based society, 3
lithium-ion batteries for electric vehicles: performances of 100 Ah cells, 8
lithium polymer battery development for electric vehicle application, 432
- Electrochemical impedance
electrochemical lithium intercalation into vanadium pentoxide xerogel film electrode, 669
- Electrochemical impedance spectroscopy
electrochemical characterization of thin-film LiCoO_2 electrodes in propylene carbonate solutions, 540

- Electrochemical polarization
thermal studies of a lithium-ion battery, 451
- Electrochemical properties
structural and electrochemical studies of α -manganese dioxide (α - MnO_2), 570
- Electrochemical quartz crystal microbalance technique
effects of the electrolyte composition on the electrochemical lithium-intercalation behavior of graphite-analysis by electrochemical quartz crystal microbalance technique, 253
- Electrode kinetics
microelectrode investigation of the lithium redox behavior in plasticized polymer electrolytes, 487
- Electrode materials
recent trends in carbon negative electrode materials, 99
- Electrodes
structural aspects of lithium insertion in transition metal oxide electrodes, 24
study of the carbon material electrolyte interface, 110
structural stability of LiMn_2O_4 electrodes for lithium batteries, 153
great reversible capacity of carbon lithium electrode in solid polymer electrolyte, 236
chemical passivation of lithiated graphitized mesocarbon fibers, 239
graphite electrodes with tailored porosity for rechargeable ion-transfer batteries, 267
effect of polysulfide-containing electrolyte on the film formation of the negative electrode, 328
cycling performance of novel lithium insertion electrode materials based on the Li–Ni–Mn–O system, 629
- Electrolytes
study of the carbon material electrolyte interface, 110
studies of petroleum coke in carbonate-based electrolyte, 232
real-time X-ray diffraction measurement of carbon structure during lithium-ion intercalation, 249
degradation mechanism of alkyl carbonate solvents used in lithium-ion cells during initial charging, 311
electrolyte for high voltage Li/LiMn_{1-x}Co_xO₂ cells, 316
helical aggregate formation of cholate salts in poly(*N*-vinyl-2-pyrrolidinone) gel and its effect on conductivity enhancement, 364
performances of lithium/gel electrolyte/polypyrrole secondary batteries, 392
development of 1 kWh (300 Ah) class lithium-ion battery, 448
the use of in situ Fourier-transform infrared spectroscopy for the study of surface phenomena on electrodes in selected lithium battery electrolyte solutions, 463
- Electrolytic conductivity
lithium cycling efficiency of ternary solvent electrolytes with ethylene carbonate–dimethyl carbonate mixture, 492
- Electron spin resonance
⁷Li NMR and ESR analysis of lithium storage in a high-capacity perylene-based disordered carbon, 283
- Electrostatic spray deposition
thin film solid electrolytes and electrodes for rechargeable lithium-ion batteries, 65
electrode and solid electrolyte thin films for secondary lithium-ion batteries, 377
- Energy density
more details on the new LiMnO_2 rechargeable battery technology developed at Tadriran, 443
- Energy storage
global energy prospects in the 21st century. a battery-based society, 3
development of 10 Wh class lithium secondary cells in the 'New Sunshine Program', 13
- Entropy change
thermal studies of a lithium-ion battery, 451
- Equilibrium constant
characterization of organic electrolyte systems by nuclear magnetic resonance and molecular orbital simulation: equilibrium constant and net charge distribution in solvation state, 304
- Ethylene carbonate
chemical properties of various organic electrolytes for lithium rechargeable batteries 1. Characterization of passivating layer formed on graphite in alkyl carbonate solutions, 59
study of the carbon material electrolyte interface, 110
comparison of organic and inorganic gelation agents in ethylene carbonate based electrolytes for lithium-ion batteries, 381
analysis of surface films on lithium in various organic electrolytes, 471
- Factorial experimental design
the study of carbon half-cell voltage in lithium-ion secondary batteries, 242
- Fault tree analysis
safety and reliability considerations for lithium batteries, 75
- Film formation
effect of polysulfide-containing electrolyte on the film formation of the negative electrode, 328
- First-principle's calculation
ab initio calculation of the intercalation voltage of lithium-transition-metal oxide electrodes for rechargeable batteries, 664
- Fluorine
synthesis and electrochemical properties for LiNiO_2 substituted by other elements, 553
- Gallium
synthesis and properties of gallium-doped LiNiO_2 as the cathode material for lithium secondary batteries, 561
- Gas generation
degradation mechanism of alkyl carbonate solvents used in lithium-ion cells during initial charging, 311
- Gel
helical aggregate formation of cholate salts in poly(*N*-vinyl-2-pyrrolidinone) gel and its effect on conductivity enhancement, 364
- Gelation agents
comparison of organic and inorganic gelation agents in ethylene carbonate based electrolytes for lithium-ion batteries, 381
- Gelled electrolytes
investigation on lithium/polymer electrolyte interface for high performance lithium rechargeable batteries, 52
properties and potential application of silica-gelled electrolytes for lithium-ion batteries, 387
- Graphite
chemical properties of various organic electrolytes for lithium rechargeable batteries 1. Characterization of passivating layer formed on graphite in alkyl carbonate solutions, 59
graphite multilayer thin films: a new anode material for Li-ion microbatteries synthesis and characterization, 204
X-ray photoelectron spectroscopy analyses of lithium intercalation and alloying reactions on graphite electrodes, 208
intercalation of lithium into natural graphite flakes and heat-treated polyimide films in ether-type solvents by chemical method, 216
real-time X-ray diffraction measurement of carbon structure during lithium-ion intercalation, 249
effects of the electrolyte composition on the electrochemical lithium-intercalation behavior of graphite-analysis by electrochemical quartz crystal microbalance technique, 253
graphite electrodes with tailored porosity for rechargeable ion-transfer batteries, 267
- Graphite anodes
characterization of modified NG7 graphite as an improved anode for lithium-ion batteries, 277
effect of morphology and texture on electrochemical properties of graphite anodes, 287

- Graphite negative electrodes
 electrochemical scanning tunneling microscopy analysis of the surface reactions on graphite basal plane in ethylene carbonate-based solvents and propylene carbonate, 221
- Graphite particle orientation
 effect of morphology and texture on electrochemical properties of graphite anodes, 287
- Graphite structure
 graphite structure and lithium intercalation, 291
- Heat treatment
 lithium intercalation in heat-treated petroleum cokes, 106
- High coulombic efficiency
 $\text{LiNi}_{1-x}\text{Co}_x\text{O}_2$ prepared at low temperature using $\beta\text{-Ni}_{1-x}\text{Co}_x\text{OOH}$ and either LiNO_3 or LiOH , 126
- Highly oriented pyrolytic graphite
 a.c. impedance analysis of electrochemical lithium intercalation into highly oriented pyrolytic graphite, 227
- High voltage cathode
 cathode performance and voltage estimation of metal trihalides, 716
- Hysteresis
 hysteresis observed in quasi open-circuit voltage measurements of lithium insertion in hydrogen-containing carbons, 201
- Imide
 on the characteristics of electrolytes with new lithium imide salts, 307
- Impedance spectroscopy
 a.c. impedance analysis of electrochemical lithium intercalation into highly oriented pyrolytic graphite, 227
- Inorganic electrolytes
 a lithium-ion cell with an inorganic electrolyte, 402
- Inorganic fillers
 effects of ceramic fillers on the electrical properties of $(\text{PEO})_{16}\text{LiClO}_4$ electrolytes, 357
- Inorganic solid electrolytes
 ionic conductivity enhancement in $\text{LiGe}_2(\text{PO}_4)_3$ solid electrolyte, 397
- Insertion
 anode performance of a new layered nitride $\text{Li}_{1-x}\text{Co}_x\text{N}$ ($x=0.2\text{--}0.6$), 515
- Insertion electrodes
 synthesis and electrochemical properties of lithium iron oxides with layer-related structures, 145
 synthesis and electrochemical properties for LiNiO_2 substituted by other elements, 553
- Insertion materials
 innovative insertion material of $\text{LiAl}_{1/4}\text{Ni}_{3/4}\text{O}_2$ ($R\bar{3}m$) for lithium-ion (shuttlecock) batteries, 131
 novel 2 V rocking-chair lithium battery based on nano-crystalline titanium dioxide, 720
- Intercalation
 recent studies on the correlation between surface chemistry, morphology, three-dimensional structures and performance of Li and Li-C intercalation anodes in several important electrolyte systems, 91
 on the behavior of the Li_xNiO_2 system: an electrochemical and structural overview, 120
 intercalation of lithium into natural graphite flakes and heat-treated polyimide films in ether-type solvents by chemical method, 216
 graphite electrodes with tailored porosity for rechargeable ion-transfer batteries, 267
 high capacity carbon anode materials: structure, hydrogen effect, and stability, 296
 electrochemical intercalation of lithium into carbons using a solid polymer electrolyte, 368
 new lithium-ion conducting compounds $3\text{Li}_x\text{N-MI}$ ($M = \text{Li, Na, K, Rb}$) and their application to solid-state lithium-ion cells, 416
 cycling performance of novel lithium insertion electrode materials based on the Li-Ni-Mn-O system, 629
 lithium intercalation into the copper, nickel or manganese vanadates $\text{Me}(\text{VO}_3)_2 \cdot y\text{H}_2\text{O}$, 652
 study of lithium insertion into $\text{Me}^+\text{V}_2\text{O}_5$, $\text{Me} = \text{copper, iron or chromium}$, 656
- Intercalation electrodes
 novel layered chalcogenides as electrode materials for lithium-ion batteries, 704
- Inverse spinels
 new inverse spinel cathode materials for rechargeable lithium batteries, 159
- Ionic conductivity
 solid polymer electrolytes for lithium cells, 37
 ionic conductivity enhancement in $\text{LiTi}_2(\text{PO}_4)_3$ -based composite electrolyte by the addition of lithium nitrate, 407
 formation of perovskite solid solutions and lithium-ion conductivity in the compositions, $\text{Li}_2\text{Sr}_{1-2x}\text{M}^{\text{III}}_{0.5-x}\text{Ta}_{0.5+x}\text{O}_3$ ($M = \text{Cr, Fe, Co, Al, Ga, In, Y}$), 421
- Ionic conductivity enhancement
 ionic conductivity enhancement in $\text{LiGe}_2(\text{PO}_4)_3$ solid electrolyte, 397
- Ionic conductors
 formation of perovskite solid solutions and lithium-ion conductivity in the compositions, $\text{Li}_2\text{Sr}_{1-2x}\text{M}^{\text{III}}_{0.5-x}\text{Ta}_{0.5+x}\text{O}_3$ ($M = \text{Cr, Fe, Co, Al, Ga, In, Y}$), 421
- Ionomers
 comparative ion transport in several polymer electrolytes, 372
- Iridium oxide
 structure and charge/discharge characteristics of new layered oxides: $\text{Li}_{1-x}\text{Ru}_{0.6}\text{Fe}_{0.6}\text{O}_3$ and Li_2IrO_3 , 686
- Iron
 preparation and electrochemical investigation of $\text{LiMn}_{2-x}\text{Me}_x\text{O}_4$ ($\text{Me} = \text{Ni, Fe, and } x=0.5, 1$) cathode materials for secondary lithium batteries, 604
- Iron oxides
 synthesis and electrochemical properties of lithium iron oxides with layer-related structures, 145
- Iron trifluoride
 cathode performance and voltage estimation of metal trihalides, 716
- Irreversible capacity loss
 irreversible capacity loss of graphite electrode in lithium-ion batteries, 187
- Jahn-Teller distortion
 X-ray absorption fine structure and neutron diffraction analyses of de-intercalation behavior in the LiCoO_2 and LiNiO_2 systems, 536
 characterization of $\text{Li}_{1-x}\text{Mn}_{2-2x}\text{O}_4$ defect spinel materials by their phase transition, magnetic and electrochemical properties, 623
- Kinetics
 kinetic analysis of capacity fade in lithium/coke half-cells, 191
- Kinetic study
 application of the microelectrode technique to the kinetic study of lithium deposition/dissolution and alloying in organic solutions, 483
- Lanthanum
 all oxide solid-state lithium-ion cells, 412
- Layered chalcogenides
 novel layered chalcogenides as electrode materials for lithium-ion batteries, 704
- Layered oxides
 structure and charge/discharge characteristics of new layered oxides: $\text{Li}_{1-x}\text{Ru}_{0.6}\text{Fe}_{0.6}\text{O}_3$ and Li_2IrO_3 , 686
- Layered structure
 synthesis and electrochemical properties of lithium iron oxides with layer-related structures, 145

- investigation of electrochemical lithium insertion in lamellar ternary oxides of the $M_xMnO \cdot zH_2O$ group, 586
- Lead tantalum sulfide
novel layered chalcogenides as electrode materials for lithium-ion batteries, 704
- Lead titanium sulfide
novel layered chalcogenides as electrode materials for lithium-ion batteries, 704
- Lithium
development of 10 Wh class lithium secondary cells in the 'New Sunshine Program', 13
passivity of lithium in organic solvents, 69
recent studies on the correlation between surface chemistry, morphology, three-dimensional structures and performance of Li and Li-C intercalation anodes in several important electrolyte systems, 91
on the behavior of the Li_1NiO_2 system: an electrochemical and structural overview, 120
 $LiNi_{1-x}Co_xO_2$ prepared at low temperature using $\beta-Ni_{1-x}Co_xOOH$ and either $LiNO_3$ or $LiOH$, 126
lithium manganese oxides for rechargeable lithium batteries, 166
intercalation of lithium into natural graphite flakes and heat-treated polyimide films in ether-type solvents by chemical method, 216
great reversible capacity of carbon lithium electrode in solid polymer electrolyte, 236
chemical passivation of lithiated graphitized mesocarbon fibers, 239
graphite electrodes with tailored porosity for rechargeable ion-transfer batteries, 267
degradation mechanism of alkyl carbonate solvents used in lithium-ion cells during initial charging, 311
effect of polysulfide-containing electrolyte on the film formation of the negative electrode, 328
electrochemical intercalation of lithium into carbons using a solid polymer electrolyte, 368
new lithium-ion conducting compounds $3Li_xN-MI$ ($M = Li, Na, K, Rb$) and their application to solid-state lithium-ion cells, 416
safety characteristics of rechargeable lithium metal cells, 455
electrochemical and quartz microbalance technique studies of anode material for secondary lithium batteries, 480
microwave synthesis of $LiCoO_2$ cathode materials, 530
the effects of the stoichiometry and synthesis temperature on the preparation of the inverse spinel $LiNiVO_4$ and its performance as a new high voltage cathode material, 549
synthesis and properties of gallium-doped $LiNiO_2$ as the cathode material for lithium secondary batteries, 561
 $LiMn_{2-x}Co_xO_4$ cathode with enhanced cycleability, 578
electrochemistry of $LiMnO_2$ over an extended potential range, 618
cycling performance of novel lithium insertion electrode materials based on the Li-Ni-Mn-O system, 629
a 7Li nuclear magnetic resonance study on spinel $LiMn_2O_4-\delta$, 637
lithium intercalation into the copper, nickel or manganese vanadates $Me(VO_3)_2 \cdot yH_2O$, $Me = copper, iron or chromium$, 652
study of lithium insertion into $Me^+V_2O_{5+1/2}$, $Me = copper, iron or chromium$, 656
synthesis and characterization of a new trimetallic cathode material for lithium batteries, 730
- Lithium-alloy anode
will advanced lithium-alloy anodes have a chance in lithium-ion batteries?, 87
- Lithium anodes
electrolyte for high voltage $Li/LiMn_{1-x}Co_xO_4$ cells, 316
effect of carbon dioxide on lithium anode cycleability with various substrates, 497
- Lithium batteries
global energy prospects in the 21st century: a battery-based society, 3
lithium-ion batteries for electric vehicles: performances of 100 Ah cells, 8
investigation on lithium/polymer electrolyte interface for high performance lithium rechargeable batteries, 52
safety and reliability considerations for lithium batteries, 75
synthesis and electrochemical properties of lithium iron oxides with layer-related structures, 145
structural stability of $LiMn_2O_4$ electrodes for lithium batteries, 153
new inverse spinel cathode materials for rechargeable lithium batteries, 159
kinetic analysis of capacity fade in lithium/coke half-cells, 191
X-ray photoelectron spectroscopy analyses of lithium intercalation and alloying reactions on graphite electrodes, 208
study on C_xN and C_xS with disordered carbon structure as the anode materials for secondary lithium batteries, 245
ionic conductivity enhancement in $LiTi_2(PO_4)_3$ -based composite electrolyte by the addition of lithium nitrate, 407
lithium polymer battery development for electric vehicle application, 432
lithium batteries: application of neutron radiography, 459
the use of in situ Fourier-transform infrared spectroscopy for the study of surface phenomena on electrodes in selected lithium battery electrolyte solutions, 463
electrochemical characterization of thin-film $LiCoO_2$ electrodes in propylene carbonate solutions, 540
structural and electrochemical studies of α -manganese dioxide ($\alpha-MnO_2$), 570
preparation and electrochemical investigation of $LiMn_{2-x}Me_xO_4$ ($Me = Ni, Fe, \text{ and } x = 0.5, 1$) cathode materials for secondary lithium batteries, 604
novel synthesis process and structure refinements of $Li_xMn_5O_{12}$ for rechargeable lithium batteries, 613
electrochemistry of $LiMnO_2$ over an extended potential range, 618
cycling performance of novel lithium insertion electrode materials based on the Li-Ni-Mn-O system, 629
ab initio calculation of the intercalation voltage of lithium-transition-metal oxide electrodes for rechargeable batteries, 664
new amorphous oxides as high capacity negative electrodes for lithium batteries. the Li_xMVO_3 ($M = Ni, Co, Cd, Zn; 1 < x \leq 8$) series, 692
the amorphous oxides $MnV_2O_{6+\delta}$ ($0 < \delta < 1$) as high capacity negative electrode materials for lithium batteries, 698
low-temperature carbon fluoride for high power density lithium primary batteries, 708
cathode performance and voltage estimation of metal trihalides, 716
novel 2 V rocking-chair lithium battery based on nano-crystalline titanium dioxide, 720
rocking-chair batteries based on $LiMn_2O_4$ and V_6O_{13} , 726
synthesis and characterization of a new trimetallic cathode material for lithium batteries, 730
- Lithium boron phosphate
electrode and solid electrolyte thin films for secondary lithium-ion batteries, 377
- Lithium-carbon
effect of polysulfide-containing electrolyte on the film formation of the negative electrode, 328
- Lithium/carbon cell
irreversible capacity loss of graphite electrode in lithium-ion batteries, 187
- Lithium cells
solid polymer electrolytes for lithium cells, 37
electrolyte for high voltage $Li/LiMn_{1-x}Co_xO_4$ cells, 316
- Lithium cobalt oxides
microvoltammetric studies on single particles of battery active materials, 139
thermal studies of a lithium-ion battery, 451
high-resolution images of ultrafine $LiCoO_2$ powders synthesized by a sol-gel process, 519

- electrochemical lithium intercalation into and de-intercalation from porous LiCoO_2 electrode by using potentiostatic current transient technique, 524
- X-ray absorption fine structure and neutron diffraction analyses of de-intercalation behavior in the LiCoO_2 and LiNiO_2 systems, 536
- Lithium compounds
- chemical properties of various organic electrolytes for lithium rechargeable batteries I. Characterization of passivating layer formed on graphite in alkyl carbonate solutions, 59
- Lithium cycling efficiency
- lithium cycling efficiency of ternary solvent electrolytes with ethylene carbonate–dimethyl carbonate mixture, 492
- Lithium de-intercalation
- structure and charge/discharge characteristics of new layered oxides: $\text{Li}_{1.8}\text{Ru}_{0.6}\text{Fe}_{0.6}\text{O}_3$ and Li_2IrO_3 , 686
- Lithium dendrites
- future prospects of the lithium metal anode, 82
- Lithium deposition/dissolution
- application of the microelectrode technique to the kinetic study of lithium deposition/dissolution and alloying in organic solutions, 483
- Lithium diffusion coefficient
- low-crystallized carbon materials for lithium-ion secondary batteries, 212
- Lithium distribution
- lithium batteries: application of neutron radiography, 459
- Lithium electrodes
- analysis of surface films on lithium in various organic electrolytes, 471
- Lithium electrolyte
- performances of $\text{Li/Li}_x\text{CoO}_2$ cells in $\text{LiAlCl}_4 \cdot 3\text{SO}_2$ electrolyte, 338
- Lithium germanium phosphate
- ionic conductivity enhancement in $\text{LiGe}_2(\text{PO}_4)_3$ solid electrolyte, 397
- Lithium hexafluorophosphate
- application of thermogravimetric studies for optimization of lithium hexafluorophosphate production, 326
- Lithium insertion
- structural aspects of lithium insertion in transition metal oxide electrodes, 24
 - hysteresis observed in quasi open-circuit voltage measurements of lithium insertion in hydrogen-containing carbons, 201
 - ^7Li NMR and ESR analysis of lithium storage in a high-capacity perylene-based disordered carbon, 283
 - in situ Raman spectroscopic study of Li_xCoO_2 electrodes in propylene carbonate solvent systems, 333
 - investigation of electrochemical lithium insertion in lamellar ternary oxides of the $\text{M}_x\text{MnO}_y \cdot z\text{H}_2\text{O}$ group, 586
- Lithium insertion limit
- lithium insertion behaviour of manganese or molybdenum substituted $\text{Li}_{1+x}\text{V}_3\text{O}_8$, 680
- Lithium intercalation
- lithium intercalation in heat-treated petroleum cokes, 106
 - a.c. impedance analysis of electrochemical lithium intercalation into highly oriented pyrolytic graphite, 227
 - effects of the electrolyte composition on the electrochemical lithium-intercalation behavior of graphite—analysis by electrochemical quartz crystal microbalance technique, 253
 - graphite structure and lithium intercalation, 291
 - in situ Raman spectroscopic study of Li_xCoO_2 electrodes in propylene carbonate solvent systems, 333
 - preparation and electrochemical characteristics of quaternary Li-Mn-V-O spinel as the positive materials for rechargeable lithium batteries, 600
 - electrochemical lithium intercalation into vanadium pentoxide xerogel film electrode, 669
- Lithium interface
- investigation on lithium/polymer electrolyte interface for high performance lithium rechargeable batteries, 52
- Lithium ion
- lithium-ion batteries for electric vehicles: performances of 100 Ah cells, 8
- Lithium-ion batteries
- new and optimised lithium manganese oxide cathodes for rechargeable lithium batteries, 19
 - thin film solid electrolytes and electrodes for rechargeable lithium-ion batteries, 65
 - will advanced lithium-alloy anodes have a chance in lithium-ion batteries?, 87
 - high-capacity lithium-ion cells using graphitized mesophase-pitch-based carbon fiber anodes, 102
 - innovative insertion material of $\text{LiAl}_{1/4}\text{Ni}_{3/4}\text{O}_2$ ($R\bar{3}m$) for lithium-ion (shuttlecock) batteries, 131
 - irreversible capacity loss of graphite electrode in lithium-ion batteries, 187
 - pyrolysed silicon-containing polymers as high capacity anodes for lithium-ion batteries, 195
 - graphite multilayer thin films: a new anode material for Li-ion microbatteries synthesis and characterization, 204
 - low-crystallized carbon materials for lithium-ion secondary batteries, 212
 - the study of carbon half-cell voltage in lithium-ion secondary batteries, 242
 - nanostructure criteria for lithium intercalation in non-doped and phosphorus-doped hard carbons, 258
 - anode characteristics of non-graphitizable carbon fibers for rechargeable lithium-ion batteries, 263
 - characterization of modified NG7 graphite as an improved anode for lithium-ion batteries, 277
 - effect of morphology and texture on electrochemical properties of graphite anodes, 287
 - degradation mechanism of alkyl carbonate solvents used in lithium-ion cells during initial charging, 311
 - electrochemical and X-ray photospectroscopy studies of polytetrafluoroethylene and polyvinylidene fluoride in Li/C batteries, 344
 - performance characteristics of lithium-ion cells using in situ polymerized electrolytes, 352
 - comparison of organic and inorganic gelation agents in ethylene carbonate based electrolytes for lithium-ion batteries, 381
 - properties and potential application of silica-gelled electrolytes for lithium-ion batteries, 387
 - a lithium-ion cell with an inorganic electrolyte, 402
 - performance study of the $\text{LiCoO}_2/\text{graphite}$ system, 440
 - development of 1 kWh (300 Ah) class lithium-ion battery, 448
 - thermal studies of a lithium-ion battery, 451
 - influence of the LiCoO_2 particle size on the performance of lithium-ion batteries, 533
 - studies of LiNiO_2 in lithium-ion batteries, 558
 - influence of morphology on the stability of LiNiO_2 , 565
 - the influence of doping on the operation of lithium manganese oxide spinel, 582
 - electrochemical impedance spectroscopy studies of lithium diffusion in doped manganese oxide, 634
 - comparative study of $\text{Li}[\text{Li}_x\text{Mn}_{2-x}\text{O}_4]$ and LT-LiMnO_2 for lithium-ion batteries, 646
 - novel layered chalcogenides as electrode materials for lithium-ion batteries, 704
 - spectroscopic identification of 2,5-dimercapto-1,3,4-thiadiazole and its lithium salt and dimer forms, 739
- Lithium-ion cells
- corrosion of aluminum at high voltages in non-aqueous electrolytes containing perfluoroalkylsulfonamide; new lithium salts for lithium-ion cells, 320
 - all oxide solid-state lithium-ion cells, 412
 - new lithium-ion conducting compounds $3\text{Li}_3\text{N-MI}$ ($\text{M} = \text{Li, Na, K, Rb}$) and their application to solid-state lithium-ion cells, 416

- anode performance of a new layered nitride $\text{Li}_{1-x}\text{Co}_x\text{N}$ ($x = 0.2-0.6$), 515
- $\delta\text{-LiV}_2\text{O}_4$ as a positive electrode material for lithium-ion cells, 723
- Lithium-ion conductivity
- formation of perovskite solid solutions and lithium-ion conductivity in the compositions, $\text{Li}_{1-x}\text{Sr}_{1-2x}\text{M}^{\text{III}}_{0.5-x}\text{Ta}_{0.5+x}\text{O}_3$ ($M = \text{Cr, Fe, Co, Al, Ga, In, Y}$), 421
- Lithium-ion extraction/insertion
- electrochemical characterization of thin-film LiCoO_2 electrodes in propylene carbonate solutions, 540
- Lithium-ion intercalation
- real-time X-ray diffraction measurement of carbon structure during lithium-ion intercalation, 249
 - effect of the lithium content on electrochemical lithium intercalation into amorphous and crystalline powdered $\text{Li}_{1-x}\text{Mn}_2\text{O}_4$ electrodes prepared by sol-gel method, 593
- Lithium-ion rechargeable batteries
- performances of $\text{Li/Li}_x\text{CoO}_2$ cells in $\text{LiAlCl}_4 \cdot 3\text{SO}_2$ electrolyte, 338
- Lithium iron oxides
- low temperature synthesis and electrochemical characteristics of LiFeO_2 cathodes, 711
- Lithium manganese oxides
- electrode and solid electrolyte thin films for secondary lithium-ion batteries, 377
 - quality control of $\text{Li}_{1-x}\text{Mn}_{2-x}\text{O}_4$ spinels with their impurity phases by Jaeger and Vetter titration, 590
 - X-ray absorption fine structure study on Li-Mn-O compounds: LiMn_2O_4 , $\text{Li}_4\text{Mn}_5\text{O}_{12}$ and Li_2MnO_3 , 609
 - novel synthesis process and structure refinements of $\text{Li}_4\text{Mn}_x\text{O}_{12}$ for rechargeable lithium batteries, 613
 - nonstoichiometry and defect structure of spinel $\text{LiMn}_2\text{O}_{4-x}$, 641
- Lithium manganese oxide electrodes
- effect of the lithium content on electrochemical lithium intercalation into amorphous and crystalline powdered $\text{Li}_{1-x}\text{Mn}_2\text{O}_4$ electrodes prepared by sol-gel method, 593
- Lithium manganese oxide spinel
- characterization of $\text{Li}_{1-x}\text{Mn}_{2-x}\text{O}_4$ defect spinel materials by their phase transition, magnetic and electrochemical properties, 623
- Lithium metal
- development of 10 Wh class lithium secondary cells in the 'New Sunshine Program', 13
- Lithium metal anodes
- future prospects of the lithium metal anode, 82
 - in situ scanning vibrating electrode technique for lithium metal anodes, 501
- Lithium-metal oxides
- ab initio calculation of the intercalation voltage of lithium-transition-metal oxide electrodes for rechargeable batteries, 664
- Lithium metal sheet
- improvement in lithium cycling efficiency by using additives in lithium metal, 476
- Lithium nickelate
- lithium-ion batteries for electric vehicles, performances of 100 Ah cells, 8
 - synthesis and electrochemical properties for LiNiO_2 substituted by other elements, 553
- Lithium nickel dioxide
- influence of morphology on the stability of LiNiO_2 , 565
- Lithium nickel oxide
- X-ray absorption fine structure and neutron diffraction analyses of de-intercalation behavior in the LiCoO_2 and LiNiO_2 systems, 536
- Lithium polymer batteries
- characterization of TiS_2 composite cathodes with solid polymer electrolyte, 660
- Lithium rechargeable batteries
- lithium manganese oxides for rechargeable lithium batteries, 166
 - discharge characteristics of an Li/LiCoO_2 cell with poly(acrylonitrile)-based polymer electrolyte, 361
 - more details on the new LiMnO_2 rechargeable battery technology developed at Tadiran, 443
- Lithium redox behavior
- microelectrode investigation of the lithium redox behavior in plasticized polymer electrolytes, 487
- Lithium salts
- electrolyte solutions for anodes in rechargeable lithium batteries, 30
 - polymer and salt selection for lithium polymer batteries, 43
 - comparative ion transport in several polymer electrolytes, 372
- Lithium secondary batteries
- the 200 V 2 kWh energy storage multicell system with 25 Wh $\text{Li/LiV}_3\text{O}_8$ single cells, 78
 - a key technology to improve the cyclic performances of carbonaceous materials for lithium secondary battery anodes, 114
 - microvoltammetric studies on single particles of battery active materials, 139
 - in situ Raman spectroscopic study of Li_xCoO_2 electrodes in propylene carbonate solvent systems, 333
 - performances of lithium/gel electrolyte/polypyrrole secondary batteries, 392
 - lithium cycling efficiency of ternary solvent electrolytes with ethylene carbonate-dimethyl carbonate mixture, 492
 - electrochemical studies of a new anode material, $\text{Li}_{1-x}\text{M}_x\text{N}$ ($M = \text{Co, Ni, Cu}$), 510
 - synthesis and electrochemical properties for LiNiO_2 substituted by other elements, 553
 - synthesis and properties of gallium-doped LiNiO_2 as the cathode material for lithium secondary batteries, 561
 - low temperature synthesis and electrochemical characteristics of LiFeO_2 cathodes, 711
- Lithium secondary cells
- development of 10 Wh class lithium secondary cells in the 'New Sunshine Program', 13
 - anodic behavior of a carbon plate in an LiCl-KCl binary molten salt, 348
 - series-connected multi-cell operation of lithium-ion cells by floating method, 427
- Lithium-tin-alloys
- will advanced lithium-alloy anodes have a chance in lithium-ion batteries?, 87
- Lithium transition metal nitride
- electrochemical studies of a new anode material, $\text{Li}_{1-x}\text{M}_x\text{N}$ ($M = \text{Co, Ni, Cu}$), 510
- Lithium transport
- electrochemical lithium intercalation into and de-intercalation from porous LiCoO_2 electrode by using potentiostatic current transient technique, 524
- Lithium vanadate oxides
- lithium insertion behaviour of manganese or molybdenum substituted $\text{Li}_{1-x}\text{V}_3\text{O}_8$, 680
- Low temperature preparation
- $\text{LiNi}_{1-x}\text{Co}_x\text{O}_2$ prepared at low temperature using $\beta\text{-Ni}_{1-x}\text{Co}_x\text{OOH}$ and either LiNO_3 or LiOH , 126
- Low temperature synthesis
- low temperature synthesis and electrochemical characteristics of LiFeO_2 cathodes, 711
- Magnetic properties
- characterization of $\text{Li}_{1-x}\text{Mn}_{2-x}\text{O}_4$ defect spinel materials by their phase transition, magnetic and electrochemical properties, 623
- Manganese
- synthesis and electrochemical characteristics of $\text{Li}(\text{Ni-M})\text{O}_2$ ($M = \text{Co, Mn}$) cathode for rechargeable lithium batteries, 545
 - $\text{LiMn}_2\text{-xCo}_x\text{O}_2$ cathode with enhanced cycleability, 578

- preparation and electrochemical investigation of $\text{LiMn}_{2-x}\text{Me}_x\text{O}_4$ (Me = Ni, Fe, and $x = 0.5, 1$) cathode materials for secondary lithium batteries, 604
- a ^7Li nuclear magnetic resonance study on spinel LiMn_2O_4 , 637
- lithium insertion behaviour of manganese or molybdenum substituted $\text{Li}_{1+x}\text{V}_3\text{O}_8$, 680
- Manganese dioxide**
structural and electrochemical studies of α -manganese dioxide (α - MnO_2), 570
electrochemistry of LiMn_2O_4 over an extended potential range, 618
- Manganese oxides**
development of 10 Wh class lithium secondary cells in the 'New Sunshine Program', 13
new and optimised lithium manganese oxide cathodes for rechargeable lithium batteries, 19
structural stability of LiMn_2O_4 electrodes for lithium batteries, 153
the influence of doping on the operation of lithium manganese oxide spinel, 582
lithium manganese oxides for rechargeable lithium batteries, 166
investigation of electrochemical lithium insertion in lamellar ternary oxides of the $\text{M}_2\text{MnO}_4 \cdot z\text{H}_2\text{O}$ group, 586
preparation and electrochemical characteristics of quaternary Li-Mn-V-O spinel as the positive materials for rechargeable lithium batteries, 600
electrochemical impedance spectroscopy studies of lithium diffusion in doped manganese oxide, 634
comparative study of $\text{Li}[\text{Li}_x\text{Mn}_{2-x}]\text{O}_4$ and LT-LiMnO_2 for lithium-ion batteries, 646
the amorphous oxides $\text{MnV}_2\text{O}_{6+\delta}$ ($0 < \delta < 1$) as high capacity negative electrode materials for lithium batteries, 698
- Manganese valency**
characterization of $\text{Li}_{1-\delta}\text{Mn}_{2-2\delta}\text{O}_4$ defect spinel materials by their phase transition, magnetic and electrochemical properties, 623
- Mechanical characteristics**
solid polymer electrolytes for lithium cells, 37
- Metal-carbon composite anodes**
design and performance of 10 Wh rechargeable lithium batteries, 436
- Metal foils**
electrochemical characterization of various metal foils as a current collector of positive electrode for rechargeable lithium batteries, 301
- Metal oxides**
lithium intercalation into the copper, nickel or manganese vanadates $\text{Me}(\text{VO}_3)_2 \cdot y\text{H}_2\text{O}$, 652
study of lithium insertion into $\text{Me}^x\text{V}_2\text{O}_{5+x/2}$, Me = copper, iron or chromium, 656
- Metal trihalides**
cathode performance and voltage estimation of metal trihalides, 716
- Microelectrodes**
microvoltammetric studies on single particles of battery active materials, 139
- Microvoltammetry**
microvoltammetric studies on single particles of battery active materials, 139
- Microwave synthesis**
microwave synthesis of LiCoO_2 cathode materials, 530
- Misfit layer compounds**
novel layered chalcogenides as electrode materials for lithium-ion batteries, 704
- Molecular orbital simulation**
characterization of organic electrolyte systems by nuclear magnetic resonance and molecular orbital simulation: equilibrium constant and net charge distribution in solvation state, 304
- Molten salt**
anodic behavior of a carbon plate in an LiCl-KCl binary molten salt, 348
- Molybdenum**
lithium insertion behaviour of manganese or molybdenum substituted $\text{Li}_{1+x}\text{V}_3\text{O}_8$, 680
- Morphology**
influence of morphology on the stability of LiNiO_2 , 565
- Multi-cells**
series-connected multi-cell operation of lithium-ion cells by floating method, 427
- Multicell systems**
the 200 V 2 kWh energy storage multicell system with 25 Wh $\text{Li/LiV}_3\text{O}_8$ single cells, 78
- Multiphase alloys**
will advanced lithium-alloy anodes have a chance in lithium-ion batteries?, 87
- NASICON**
ionic conductivity enhancement in $\text{LiTi}_2(\text{PO}_4)_x$ -based composite electrolyte by the addition of lithium nitrate, 407
- Negative electrodes**
recent trends in carbon negative electrode materials, 99
chemical passivation of lithiated graphitized mesocarbon fibers, 239
new amorphous oxides as high capacity negative electrodes for lithium batteries: the Li_xMVO_4 (M = Ni, Co, Cd, Zn; $1 < x \leq 8$) series, 692
the amorphous oxides $\text{MnV}_2\text{O}_{6+\delta}$ ($0 < \delta < 1$) as high capacity negative electrode materials for lithium batteries, 698
- Net charge**
characterization of organic electrolyte systems by nuclear magnetic resonance and molecular orbital simulation: equilibrium constant and net charge distribution in solvation state, 304
- Neutron diffraction**
high capacity carbon anode materials: structure, hydrogen effect, and stability, 296
X-ray absorption fine structure and neutron diffraction analyses of de-intercalation behavior in the LiCoO_2 and LiNiO_2 systems, 536
- Neutron radiography**
lithium batteries: application of neutron radiography, 459
- Nickel**
new inverse spinel cathode materials for rechargeable lithium batteries, 159
anode performance of a new layered nitride $\text{Li}_{1-x}\text{Co}_x\text{N}$ ($x = 0.2-0.6$), 515
synthesis and electrochemical characteristics of $\text{Li}(\text{Ni} \cdot \text{M})\text{O}_2$ (M = Co, Mn) cathode for rechargeable lithium batteries, 545
the effects of the stoichiometry and synthesis temperature on the preparation of the inverse spinel LiNiVO_4 and its performance as a new high voltage cathode material, 549
studies of LiNiO_2 in lithium-ion batteries, 558
preparation and electrochemical investigation of $\text{LiMn}_{2-x}\text{Me}_x\text{O}_4$ (Me = Ni, Fe, and $x = 0.5, 1$) cathode materials for secondary lithium batteries, 604
- Nickel manganese oxides**
cycling performance of novel lithium insertion electrode materials based on the Li-Ni-Mn-O system, 629
- Nickel nitride**
electrochemical studies of a new anode material, $\text{Li}_{1-x}\text{M}_x\text{N}$ (M = Co, Ni, Cu), 510
- Nickel oxides**
development of 10 Wh class lithium secondary cells in the 'New Sunshine Program', 13
on the behavior of the Li_xNiO_2 system: an electrochemical and structural overview, 120
synthesis and properties of gallium-doped LiNiO_2 as the cathode material for lithium secondary batteries, 561
- Nitride**
anode performance of a new layered nitride $\text{Li}_{1-x}\text{Co}_x\text{N}$ ($x = 0.2-0.6$), 515

- Nitrogen**
 LiNi_{1-x}Co_xO₂ prepared at low temperature using β-Ni_{1-x}Co_xOOH and either LiNO₃ or LiOH, 126
- Non-destructive detection**
 lithium batteries: application of neutron radiography, 459
- Non-graphitizable carbon**
 anode characteristics of non-graphitizable carbon fibers for rechargeable lithium-ion batteries, 263
- Nuclear magnetic resonance**
⁷Li NMR and ESR analysis of lithium storage in a high-capacity perylene-based disordered carbon, 283
 characterization of organic electrolyte systems by nuclear magnetic resonance and molecular orbital simulation: equilibrium constant and net charge distribution in solvation state, 304
- Nuclear magnetic resonance study**
 a ⁷Li nuclear magnetic resonance study on spinel LiMn₂O_{4-δ}, 637
- Optical skin depth**
 in situ Raman spectroscopic study of Li_xCoO₂ electrodes in propylene carbonate solvent systems, 333
- Orbital energy**
 on the characteristics of electrolytes with new lithium imide salts, 307
- Organic electrolytes**
 electrolyte solutions for anodes in rechargeable lithium batteries, 30
 chemical properties of various organic electrolytes for lithium rechargeable batteries 1. Characterization of passivating layer formed on graphite in alkyl carbonate solutions, 59
 effects of the electrolyte composition on the electrochemical lithium-intercalation behavior of graphite-analysis by electrochemical quartz crystal microbalance technique, 253
 characterization of organic electrolyte systems by nuclear magnetic resonance and molecular orbital simulation: equilibrium constant and net charge distribution in solvation state, 304
 lithium cycling efficiency of ternary solvent electrolytes with ethylene carbonate-dimethyl carbonate mixture, 492
- Organic lithium salts**
 on the characteristics of electrolytes with new lithium imide salts, 307
- Organic solvents**
 passivity of lithium in organic solvents, 69
 comparison of organic and inorganic gelation agents in ethylene carbonate based electrolytes for lithium-ion batteries, 381
 performances of lithium/gel electrolyte/polypyrrole secondary batteries, 392
 application of the microelectrode technique to the kinetic study of lithium deposition/dissolution and alloying in organic solutions, 483
- Organosulfur compounds**
 organosulfur polymer batteries with high energy density, 135
 spectroscopic identification of 2,5-dimercapto-1,3,4-thiadiazole and its lithium salt and dimer forms, 739
- Overcharge**
 performance characteristics of lithium-ion cells using in situ polymerized electrolytes, 352
 series-connected multi-cell operation of lithium-ion cells by floating method, 427
- Overdischarge**
 series-connected multi-cell operation of lithium-ion cells by floating method, 427
- Oxidation**
 characterization of modified NG7 graphite as an improved anode for lithium-ion batteries, 277
- Oxidation potential**
 on the characteristics of electrolytes with new lithium imide salts, 307
- Oxygen deficiency**
 a ⁷Li nuclear magnetic resonance study on spinel LiMn₂O_{4-δ}, 637
- Oxygen nonstoichiometry**
 nonstoichiometry and defect structure of spinel LiMn₂O_{4-δ}, 641
- Ozone oxidation method**
 observation of structure change due to discharge/charge process of V₂O₅ prepared by ozone oxidation method, using in situ X-ray diffraction technique, 674
- Particle size distribution**
 influence of the LiCoO₂ particle size on the performance of lithium-ion batteries, 533
- Passivating films**
 chemical properties of various organic electrolytes for lithium rechargeable batteries 1. Characterization of passivating layer formed on graphite in alkyl carbonate solutions, 59
- Passivation**
 study of the carbon material electrolyte interface, 110
 chemical passivation of lithiated graphitized mesocarbon fibers, 239
- Passivation layer**
 characterization of TiS₂ composite cathodes with solid polymer electrolyte, 660
- Passivity**
 passivity of lithium in organic solvents, 69
- P-doping**
 nanostructure criteria for lithium intercalation in non-doped and phosphorus-doped hard carbons, 258
- Performance**
 performances of lithium/gel electrolyte/polypyrrole secondary batteries, 392
- Perovskite**
 formation of perovskite solid solutions and lithium-ion conductivity in the compositions, Li_{2x}Sr_{1-2x}M^{III}_{0.5-x}Ta_{0.5+x}O₃ (M = Cr, Fe, Co, Al, Ga, In, Y), 421
- Petroleum coke**
 lithium intercalation in heat-treated petroleum cokes, 106
 studies of petroleum coke in carbonate-based electrolyte, 232
- Phase-boundary movement**
 electrochemical lithium intercalation into and de-intercalation from porous LiCoO₂ electrode by using potentiostatic current transient technique, 524
- Plasticized polymer electrolytes**
 microelectrode investigation of the lithium redox behavior in plasticized polymer electrolytes, 487
- Polyamides**
 new type polyamides containing disulfide bonds for positive active material of lithium secondary batteries, 735
- Poly(ethylene oxide)**
 study of the carbon material electrolyte interface, 110
 effects of ceramic fillers on the electrical properties of (PEO)₁₆LiClO₄ electrolytes, 357
- Polymer batteries**
 organosulfur polymer batteries with high energy density, 135
- Polymer composite electrolytes**
 effects of ceramic fillers on the electrical properties of (PEO)₁₆LiClO₄ electrolytes, 357
- Polymer electrolytes**
 polymer and salt selection for lithium polymer batteries, 43
 investigation on lithium/polymer electrolyte interface for high performance lithium rechargeable batteries, 52
 great reversible capacity of carbon lithium electrode in solid polymer electrolyte, 236
 discharge characteristics of an Li/LiCoO₂ cell with poly(acrylonitrile)-based polymer electrolyte, 361
 comparative ion transport in several polymer electrolytes, 372
- Poly(oxyethylene) network**
 comparative ion transport in several polymer electrolytes, 372
- Polysulfide**
 effect of polysulfide-containing electrolyte on the film formation of the negative electrode, 328

- Polytetrafluoroethylene
 electrochemical and X-ray photospectroscopy studies of polytetrafluoroethylene and polyvinylidene fluoride in Li/C batteries, 344
- Polyvinylidene fluoride
 electrochemical and X-ray photospectroscopy studies of polytetrafluoroethylene and polyvinylidene fluoride in Li/C batteries, 344
- Porosity
 graphite electrodes with tailored porosity for rechargeable ion-transfer batteries, 267
 cycling performance of novel lithium insertion electrode materials based on the Li–Ni–Mn–O system, 629
- Porous electrodes
 electrochemical lithium intercalation into and de-intercalation from porous LiCoO₂ electrode by using potentiostatic current transient technique, 524
- Positive active materials
 new type polyamides containing disulfide bonds for positive active material of lithium secondary batteries, 735
- Positive electrode material
 δ-LiV₂O₅ as a positive electrode material for lithium-ion cells, 723
- Positive electrodes
 lithium-ion batteries for electric vehicles performances of 100 Ah cells, 8
 electrochemical characterization of various metal foils as a current collector of positive electrode for rechargeable lithium batteries, 301
- Positive materials
 preparation and electrochemical characteristics of quaternary Li–Mn–V–O spinel as the positive materials for rechargeable lithium batteries, 600
- Propylene carbonate
 studies of petroleum coke in carbonate-based electrolyte, 232
- Pseudopotential
 ab initio calculation of the intercalation voltage of lithium-transition-metal oxide electrodes for rechargeable batteries, 664
- Quality control
 quality control of Li_{1+x}Mn_{2-x}O₄ spinels with their impurity phases by Jaeger and Vetter titration, 590
- Quartz crystal microbalance studies
 electrochemical and quartz microbalance technique studies of anode material for secondary lithium batteries, 480
- Raman spectroscopy
 in situ Raman spectroscopic study of Li_{1-x}CoO₂ electrodes in propylene carbonate solvent systems, 333
- Rate capability
 low-temperature carbon fluoride for high power density lithium primary batteries, 708
- Reaction rate constant
 application of thermogravimetric studies for optimization of lithium hexafluorophosphate production, 326
- Rechargeability
 comparative study of Li_{1-x}[Li_{1-x}Mn_{2-x}]O₄ and LT-LiMnO₂ for lithium-ion batteries, 646
- Rechargeable batteries
 high-capacity lithium-ion cells using graphitized mesophase-pitch-based carbon fiber anodes, 102
 performance characteristics of lithium-ion cells using in situ polymerized electrolytes, 352
- Rechargeable ion-transfer batteries
 graphite electrodes with tailored porosity for rechargeable ion-transfer batteries, 267
- Rechargeable lithium batteries
 electrolyte solutions for anodes in rechargeable lithium batteries, 30
 future prospects of the lithium metal anode, 82
 recent trends in carbon negative electrode materials, 99
 electrochemical characterization of various metal foils as a current collector of positive electrode for rechargeable lithium batteries, 301
 a lithium-ion cell with an inorganic electrolyte, 402
 design and performance of 10 Wh rechargeable lithium batteries, 436
 analysis of surface films on lithium in various organic electrolytes, 471
 in situ scanning vibrating electrode technique for lithium metal anodes, 501
 studies of Al–Al₃Ni eutectic mixtures as insertion anodes in rechargeable lithium batteries, 506
 synthesis and electrochemical characteristics of Li(Ni·M)O₂ (M = Co, Mn) cathode for rechargeable lithium batteries, 545
 preparation and electrochemical characteristics of quaternary Li–Mn–V–O spinel as the positive materials for rechargeable lithium batteries, 600
- Reliability
 safety and reliability considerations for lithium batteries, 75
- Rietveld method
 novel synthesis process and structure refinements of Li₄Mn₅O₁₂ for rechargeable lithium batteries, 613
- Rocking-chair batteries
 new lithium-ion conducting compounds 3Li₃N–MI (M = Li, Na, K, Rb) and their application to solid-state lithium-ion cells, 416
 novel 2 V rocking-chair lithium battery based on nano-crystalline titanium dioxide, 720
 rocking-chair batteries based on LiMn₂O₄ and V₆O₁₃, 726
- Ruthenium oxide
 structure and charge/discharge characteristics of new layered oxides: Li_{1-x}Ru_{0.6}Fe_{0.4}O₃ and Li₂IrO₃, 686
- Safety
 safety and reliability considerations for lithium batteries, 75
 safety characteristics of rechargeable lithium metal cells, 455
- Scanning tunneling microscopy
 electrochemical scanning tunneling microscopy analysis of the surface reactions on graphite basal plane in ethylene carbonate-based solvents and propylene carbonate, 221
- Secondary batteries
 global energy prospects in the 21st century: a battery-based society, 3
 safety characteristics of rechargeable lithium metal cells, 455
 new type polyamides containing disulfide bonds for positive active material of lithium secondary batteries, 735
- Secondary lithium batteries
 electrochemical scanning tunneling microscopy analysis of the surface reactions on graphite basal plane in ethylene carbonate-based solvents and propylene carbonate, 221
 X-ray absorption fine structure study on Li–Mn–O compounds LiMn₂O₄, Li₄Mn₅O₁₂ and Li₂MnO₃, 609
- Semi-coke
 great reversible capacity of carbon lithium electrode in solid polymer electrolyte, 236
- Semi-covalent
 low-temperature carbon fluoride for high power density lithium primary batteries, 708
- Silica
 properties and potential application of silica-gelled electrolytes for lithium-ion batteries, 387
- Silicon polymers
 pyrolysed silicon-containing polymers as high capacity anodes for lithium-ion batteries, 195
- Silver
 synthesis and characterization of a new trimetallic cathode material for lithium batteries, 730
- Sol–gel method
 effect of the lithium content on electrochemical lithium intercalation into amorphous and crystalline powdered Li_{1+x}Mn_{2-x}O₄ electrodes prepared by sol–gel method, 593

- Sol-gel process
 high-resolution images of ultrafine LiCoO_2 powders synthesized by a sol-gel process, 519
- Solid electrolyte interfaces
 characterization of modified NG7 graphite as an improved anode for lithium-ion batteries, 277
- Solid electrolytes
 ionic conductivity enhancement in $\text{LiTl}_2(\text{PO}_4)_3$ -based composite electrolyte by the addition of lithium nitrate, 407
 new lithium-ion conducting compounds $3\text{Li}_3\text{N-MI}$ ($\text{M} = \text{Li, Na, K, Rb}$) and their application to solid-state lithium-ion cells, 416
 formation of perovskite solid solutions and lithium-ion conductivity in the compositions, $\text{Li}_2\text{Sr}_{1-2x}\text{M}^{\text{III}}_{0.5-x}\text{Ta}_{0.5+x}\text{O}_3$ ($\text{M} = \text{Cr, Fe, Co, Al, Ga, In, Y}$), 421
- Solid polymer electrolytes
 development of 10 Wh class lithium secondary cells in the 'New Sunshine Program', 13
 solid polymer electrolytes for lithium cells, 37
 performance characteristics of lithium-ion cells using in situ polymerized electrolytes, 352
 electrochemical intercalation of lithium into carbons using a solid polymer electrolyte, 368
 characterization of TiS_2 composite cathodes with solid polymer electrolyte, 660
- Solid-state batteries
 all oxide solid-state lithium-ion cells, 412
- Solid-state polymer electrolytes
 lithium polymer battery development for electric vehicle application, 432
- Solvation
 characterization of organic electrolyte systems by nuclear magnetic resonance and molecular orbital simulation. equilibrium constant and net charge distribution in solvation state, 304
- Solvent decomposition
 electrochemical scanning tunneling microscopy analysis of the surface reactions on graphite basal plane in ethylene carbonate-based solvents and propylene carbonate, 221
- Spin coating
 electrochemical lithium intercalation into vanadium pentoxide xerogel film electrode, 669
- Spinel
 the influence of doping on the operation of lithium manganese oxide spinel, 582
 quality control of $\text{Li}_{1+\delta}\text{Mn}_{2-\delta}\text{O}_4$ spinels with their impurity phases by Jaeger and Vetter titration, 590
 novel synthesis process and structure refinements of $\text{Li}_4\text{Mn}_5\text{O}_{12}$ for rechargeable lithium batteries, 613
 nonstoichiometry and defect structure of spinel LiMn_2O_4 , 641
- Spinel compounds
 the effects of the stoichiometry and synthesis temperature on the preparation of the inverse spinel LiNiVO_4 and its performance as a new high voltage cathode material, 549
- Spinel-related manganese oxides
 microvoltammetric studies on single particles of battery active materials, 139
- Spinel structure
 X-ray absorption fine structure study on Li-Mn-O compounds: LiMn_2O_4 , $\text{Li}_4\text{Mn}_5\text{O}_{12}$ and Li_2MnO_3 , 609
- Stability
 influence of morphology on the stability of LiNiO_2 , 565
- Standard electrode potential
 cathode performance and voltage estimation of metal trihalides, 716
- Structural phase transition
 a ^7Li nuclear magnetic resonance study on spinel LiMn_2O_4 , 637
- Structure
 nanostructure criteria for lithium intercalation in non-doped and phosphorus-doped hard carbons, 258
 structural and electrochemical studies of α -manganese dioxide ($\alpha\text{-MnO}_2$), 570
- Structure refinement
 novel synthesis process and structure refinements of $\text{Li}_4\text{Mn}_5\text{O}_{12}$ for rechargeable lithium batteries, 613
- Substitution
 lithium insertion behaviour of manganese or molybdenum substituted $\text{Li}_{1+x}\text{V}_x\text{O}_8$, 680
- Sulfur dioxide
 a lithium-ion cell with an inorganic electrolyte, 402
- Surface chemistry
 recent studies on the correlation between surface chemistry, morphology, three-dimensional structures and performance of Li and Li-C intercalation anodes in several important electrolyte systems, 91
- Surface films
 degradation mechanism of alkyl carbonate solvents used in lithium-ion cells during initial charging, 311
 electrochemical and quartz microbalance technique studies of anode material for secondary lithium batteries, 480
- Surface phenomena
 the use of in situ Fourier-transform infrared spectroscopy for the study of surface phenomena on electrodes in selected lithium battery electrolyte solutions, 463
- Surface protective film
 electrochemical scanning tunneling microscopy analysis of the surface reactions on graphite basal plane in ethylene carbonate-based solvents and propylene carbonate, 221
- Surface retarding films
 a key technology to improve the cyclic performances of carbonaceous materials for lithium secondary battery anodes, 114
- Tantalate
 formation of perovskite solid solutions and lithium-ion conductivity in the compositions, $\text{Li}_2\text{Sr}_{1-2x}\text{M}^{\text{III}}_{0.5-x}\text{Ta}_{0.5+x}\text{O}_3$ ($\text{M} = \text{Cr, Fe, Co, Al, Ga, In, Y}$), 421
- Thermal decomposition
 application of thermogravimetric studies for optimization of lithium hexafluorophosphate production, 326
- Thermal stability
 solid polymer electrolytes for lithium cells, 37
- Thermogravimetric analysis
 nonstoichiometry and defect structure of spinel LiMn_2O_4 , 641
- Thermogravimetric investigations
 application of thermogravimetric studies for optimization of lithium hexafluorophosphate production, 326
- Thin film deposition
 thin film solid electrolytes and electrodes for rechargeable lithium-ion batteries, 65
- Thin film lithium batteries
 electrode and solid electrolyte thin films for secondary lithium-ion batteries, 377
- Thin films
 graphite multilayer thin films: a new anode material for Li -ion microbatteries synthesis and characterization, 204
 all oxide solid-state lithium-ion cells, 412
 electrochemical characterization of thin-film LiCoO_2 electrodes in propylene carbonate solutions, 540
- Titanium
 all oxide solid-state lithium-ion cells, 412
- Titanium dioxide
 novel 2 V rocking-chair lithium battery based on nano-crystalline titanium dioxide, 720

- Titanium sulfide composite cathode
 characterization of TiS_2 composite cathodes with solid polymer electrolyte, 660
- Toluene
 improvement in lithium cycling efficiency by using additives in lithium metal, 476
- Trans-esterification
 degradation mechanism of alkyl carbonate solvents used in lithium-ion cells during initial charging, 311
- Transition metal oxides
 structural aspects of lithium insertion in transition metal oxide electrodes, 24
- Transport number
 comparative ion transport in several polymer electrolytes, 372
- Trilemma
 global energy prospects in the 21st century: a battery-based society, 3
- Ultrafine powders
 high-resolution images of ultrafine LiCoO_2 powders synthesized by a sol-gel process, 519
- Ultrasmall particle size
 will advanced lithium-alloy anodes have a chance in lithium-ion batteries?, 87
- Vanadate
 lithium intercalation into the copper, nickel or manganese vanadates $\text{Me}(\text{VO}_3)_2 \cdot n\text{H}_2\text{O}$, 652
- Vanadium
 new inverse spinel cathode materials for rechargeable lithium batteries, 159
 the effects of the stoichiometry and synthesis temperature on the preparation of the inverse spinel LiNiVO_4 and its performance as a new high voltage cathode material, 549
 lithium intercalation into the copper, nickel or manganese vanadates $\text{Me}(\text{VO}_3)_2 \cdot n\text{H}_2\text{O}$, 652
 study of lithium insertion into $\text{Me}^n\text{V}_2\text{O}_5$, $n = 1, 2$, Me = copper, iron or chromium, 656
 synthesis and characterization of a new trimetallic cathode material for lithium batteries, 730
- Vanadium oxides
 safety characteristics of rechargeable lithium metal cells, 455
 preparation and electrochemical characteristics of quaternary Li–Mn–V–O spinel as the positive materials for rechargeable lithium batteries, 600
- the amorphous oxides $\text{MnV}_2\text{O}_{6+\delta}$ ($0 < \delta < 1$) as high capacity negative electrode materials for lithium batteries, 698
 rocking-chair batteries based on LiMn_2O_4 and V_6O_{13} , 726
- Vanadium pentoxide
 observation of structure change due to discharge/charge process of V_2O_5 prepared by ozone oxidation method, using in situ X-ray diffraction technique, 674
 $\delta\text{-LiV}_2\text{O}_5$ as a positive electrode material for lithium-ion cells, 723
- Vanadium pentoxide xerogel films
 electrochemical lithium intercalation into vanadium pentoxide xerogel film electrode, 669
- Voltage estimation
 cathode performance and voltage estimation of metal trihalides, 716
- Voltage profile
 unique charge/discharge properties of carbon materials with different structures, 271
- Warburg impedance
 a.c. impedance analysis of electrochemical lithium intercalation into highly oriented pyrolytic graphite, 227
- Water
 a key technology to improve the cyclic performances of carbonaceous materials for lithium secondary battery anodes, 114
- Water molecule
 electrochemical lithium intercalation into vanadium pentoxide xerogel film electrode, 669
- X-ray absorption fine structure
 X-ray absorption fine structure study on Li–Mn–O compounds: LiMn_2O_4 , $\text{Li}_4\text{Mn}_4\text{O}_{13}$ and Li_2MnO_3 , 609
- X-ray absorption fine structure analysis
 X-ray absorption fine structure and neutron diffraction analyses of de-intercalation behavior in the LiCoO_2 and LiNiO_2 systems, 536
- X-ray absorption spectroscopy
 X-ray absorption fine structure and neutron diffraction analyses of de-intercalation behavior in the LiCoO_2 and LiNiO_2 systems, 536
- X-ray diffraction
 high capacity carbon anode materials: structure, hydrogen effect, and stability, 296
- X-ray photoelectron spectroscopy
 X-ray photoelectron spectroscopy analyses of lithium intercalation and alloying reactions on graphite electrodes, 208