SUBJECT INDEX

A.c. impedance studies on Li passivating layer of Li-SOCl₂ cell, 419 Alloy/conducting-polymer composite electrodes; electrolytes, cathodes, and morphology, 93 Alloving substrates effects of, on characteristics of Li negative electrode, 573 Allovs materials science principles related to, of potential use in rechargeable Li cells, 109 Aluminum electrochemical behaviour of Ca in $Ba(AlCl_4)_2$ and $Sr(AlCl_4)_2$ -thionyl chloride solutions; SEI electrodes, 423 LiAlCl₄-SO₂ electrolyte, electrochemical studies of P3-MT electrodes in, 553 Li/MoS₂ and Li,Al/FeS cells, precision cycling and Coulombic efficiency measurements on, 293 Aprotic solvents electrolyte solvation in, 9 Arsenic stabilization of $LiAsF_6/1,3$ -dioxolane for use in rechargeable Li batteries, 519 Barium electrochemical behaviour of Ca in $Ba(AlCl_4)_2$ and $Sr(AlCl_4)_2$ -thionyl chloride solutions; SEI electrodes, 423 Battery dry room facility relationship between dry room parameters and moisture control unit, 603 **Battery** performances fractal analysis of, 179 Calcium electrochemical behaviour of, in Ba(AlCl₄)₂ and Sr(AlCl₄)₂-thionyl chloride solutions; SEI electrodes, 423

Carbon electrodes, macrokinetic study of thionyl chloride reduction on porous, 427 as negative electrode, rechargeable Li battery based on pyrolytic, 545 as negative electrodes in Li secondary cells, 535 Catalysts for Li/SOCl₂ cells, advanced, 597 Cathode(s) alloy/conducting-polymer composite electrodes, 93 Li intercalation, modified Cr oxides for high-rate, 409 Mo trisulfide thin film, prepared by chemical vapor deposition, 103 pyrite-based, for ambient temperature Li batteries by in situ 57Fe Mössbauer spectroscopy, 333 V₂O₅-based glasses as, for Li batteries, 381 Cathode active materials molybdic oxides as, in secondary Li batteries, 373 Cathode batteries advances in primary Li liquid, 51 Cathode material(s) chemically desodiated thiochromites as, in secondary Li cells, 285 new class of reversible; defect thiospinels, 277 Cathodic material all-solid-state battery using graphite oxide as active, 529 **Charge-transfer reactions** kinetics of, on passive Li electrodes, 129 Chemical vapor deposition Mo trisulfide thin film cathodes prepared by, 103 Chromium oxides modified, for high-rate Li intercalation cathodes, 409 Composite dimensional manganese oxide (CDMO) Mn oxides for Li secondary battery, 389

© Elsevier Sequoia/Printed in The Netherlands

Conductivity phase relations and, in system poly-(ethylene oxide)-LiClO₄, 503 Coulombic efficiency measurements on Li/MoS₂ and Li,Al/FeS cells, precision cycling and, 293 Cycleability of Li electrodes, problems of, 563 Cycling behaviour of Li electrode during, in nonaqueous solutions, 585 precision, and Coulombic efficiency measurements on Li/MoS_2 and Li,Al/FeS cells, 293 d.c. pulse transient response to heat and; evaluation of Li cell materials, 611 Defect thiospinels new class of reversible cathode material, 277 Dendritic growth dynamics of, 121 1,3-Dioxolane stabilization of $LiAsF_6/$, for use in rechargeable Li batteries, 519 Discharge and charge characteristics of FeOCl modified by organic compound, 467 Dry room parameters battery dry room facility; relationship between, and moisture control unit, 603 Dynamics of dendritic growtn, 121 **Electrical properties** of $P2VP \cdot nI_2$ complexes, 557 **Electrochemical behaviour** of Ca in Ba(AlCl₄)₂ and Sr(AlCl₄)₂thionyl chloride solutions; SEI electrodes, 423 **Electrochemical investigation** of temperature dependence of inorganic electrolytes in rechargeable Li batteries, 511 **Electrochemical studies** of P3-MT electrodes in LiAlCl₄-SO₂ electrolyte, 553 Electrochemistry of spinel oxides LiTi₂O₄ and Li_{4/3}- $Ti_{5/3}O_4$, structure and, 397 Electrode(s) alloy/conducting-polymer composite; electrolytes, cathodes, and morphology, 93

C as negative, in Li secondary cells, 535Li, kinetics of charge-transfer reactions on passive, 129 Li negative, effects of alloying substrates on characteristics of, 573 Li, problems of cycleability of, 563 P3-MT, in LiAlCl₄-SO₂ electrolyte, electrochemical studies of, 553 porous C, macrokinetic study of thionyl chloride reduction on, 427 porous insertion, kinetics of, 139 pyrolytic C as negative, rechargeable Li battery based on, 545 solid electrolyte interphase (SEI); electrochemical behaviour of Ca in $Ba(AlCl_4)_2$ and $Sr(AlCl_4)_2$ -thionyl chloride solutions, 423 Electrode impedance spectroscopy properties of Li surface layers in aprotic organic electrolytes, study by, 571 Electrode material(s) glasses as electrolytes and, in Li batteries, 33 graphite fluorides as, in Li batteries, new, 525 Nb triselenide, unique rechargeable positive, 65 Electrode properties of Zr diselenide in Li/polymer electrolyte batteries, effect of nonstoichiometry on, 273 **Electrode** surface micro-Raman study of, in Li/SOCl₂ cells, 439 Electrolyte(s) alloy/conducting-polymer composite electrodes, 93 aprotic organic, properties of Li surface layers in, by electrode impedance spectroscopy, 571 ethylene carbonate-based, for rechargeable Li batteries, 449 glasses as, and electrode materials in Li batteries, 33 LiAlCl₄-SO₂, electrochemical studies of P3-MT electrodes in, 553 liquid or polymeric, non-equilibrium thermodynamics of transport and reaction in Li cells with; application to impedance analysis, 491 molten salt, for high-temperature Li cells, 37 organic additives for, of rechargeable Li batteries, 579

polymer, 23 SoCl₂, NMR spectra of H-species in, 415 sulfolane-based, properties of surface layers formed on Li electrodes in, 593 Electrolyte solvation in aprotic solvents, 9 Ethylene carbonate -based electrolytes for rechargeable Li batteries, 449 EXAFS redox processes in LirFeS2/Li electrochemical system studied through crystal, Mössbauer and, 325 Fire behaviour of Li batteries in, 195 Fractal analysis of battery performances, 179 Glasses

as electrolytes and electrode materials in Li batteries, 33 V₂O₅-based, as cathodes for Li batteries, 381 Graphite fluorides as electrode materials in Li batteries, new, 525 Graphite oxide as active cathodic material, all-solidstate battery using, 529

High temperature high pulse power Li batteries, 81 Li cells, molten salt electrolytes for, 37 H-species

NMR spectra of, in SOCl₂ electrolytes, 415

IC cards ultra-thin Mn dioxide—Li battery for multifunctional, 369 Impedance analysis non-equilibrium thermodynamics of transport and reaction in Li cells with liquid or polymeric electrolytes; application to, 491 Impedance studies on system LiClO₄-MEEP, 483 Incorporation reaction of Li into V₆O₁₃ in rechargeable Li battery, 347

Inorganic electrolytes in rechargeable Li batteries, electrochemical investigation of temperature dependence of, 511 Iodine electrical properties of $P2VP \cdot nI_2$ complexes, 557 Iron discharge and charge characteristics of FeOCl modified by an organic compound, 467 Li insertion into $Fe_2(SO_4)_3$ frameworks, 403 Li/MoS_2 and Li,Al/FeS cells, precision cycling and Coulombic efficiency measurements on, 293 Redox processes in $Li_x FeS_2/Li$ electrochemical system studied through crystal, Mössbauer, and EXAFS analyses, 325 Japan development of Li rechargeable batteries, 257 Kinetics of charge-transfer reactions on passive Li electrodes, 129 of porous insertion electrodes, 139 of reduction of thionyl chloride, 161 Lithium advances in primary Li liquid cathode batteries, 51 Ag-V oxide multiplate battery, voltage delay and complex impedance characteristics of highrate, 365 electrochemical studies of P3-MT electrodes in LiAlCl₄-SO₂ electrolyte, 553 impedance studies on system LiClO₄-**MEEP**, 483 incorporation reaction of Li into V_6O_{13} in rechargeable Li battery, 347 Mn dioxide-, battery for multifunctional IC cards, ultrathin, 369 phase relations and conductivity in system poly(ethylene oxide)-LiClO₄, 503 /polymer electrolyte batteries, effect of non-stoichiometry on electrode

properties of Zr diselenide in, 273

precision cycling and Coulombic efficiency measurements on Li/ MoS₂ and Li,Al/FeS cells, 293 Redox processes in $Li_x FeS_2/Li$ electrochemical system studied through crystal, Mössbauer, and EXAFS analyses, 325 3R phase of $Li_x TiS_2$, 301 -S battery, rechargeable, 269 $-SOCl_2$ cell(s) a.c. impedance studies on Li passivating layer of, 419 advanced catalysts for, 597 low temperature testing of, 211 micro-Raman study of electrode surface in, 439 reserve type, 435 wound-type cells, safety test results of, 201 $/SOCl_2$ couple, thermodynamic measurements on, 441 solid-state microbatteries, integrable, 615 stabilization of $LiAsF_6/1, 3$ -dioxolane for use in rechargeable Li batteries, 519 structure and electrochemistry of spinel oxides LiTi₂O₄ and Li_{4'3}-Ti_{5/3}O₄, 397 synthesis and characterization of γ -MnO₂ from LiMn₂O₄, 355 -Ti disulphide cells of spirally-wound design, rechargeable, 309 /Ti disulphide secondary battery, 313 Lithium battery(ies) all-solid-state; preparation and characterization of thin film of polymer electrolyte by plasma CVD, 457 based on pyrolytic C as negative electrode, rechargeable, 545 behaviour of, in fire, 195 behaviour of rechargeable, 77 electrochemical investigation of temperature dependence of inorganic electrolytes in rechargeable, 511 ethylene carbonate-based electrolytes for rechargeable, 449 glasses as electrolytes and electrode materials in, 33 graphite fluorides as electrode materials in, new, 525 high temperature, high pulse power,

81

incorporation reaction of Li into V_6O_{13} in rechargeable, 347 military applications of, 243 Mn oxides for secondary; composite dimensional Mn oxide (CDMO), 389 molybdic oxides as cathode active materials in secondary, 373 new rechargeable, 233 organic additives for electrolytes of rechargeable, 579 practical rechargeable, 247 pyrite-based cathodes for ambient temperature, by *in situ* ⁵⁷Fe Mössbauer spectroscopy, 333 rechargeable, development of, in Japan, 257 reliability of implantable, 185 stabilization of LiAsF₆/1,3-dioxolane for use in rechargeable, 519 V_2O_5 -based glasses as cathodes for, 381Lithium battery systems compatible power converters for, 607 Lithium cell(s) C as negative electrodes in Li secondary cells, 535 chemically desodiated thiochromites as cathode materials in secondary, 285with liquid or polymeric electrolytes, non-equilibrium thermodynamics of transport and reaction in; application to impedance analysis, 491 materials science principles related to alloys of potential use in rechargeable, 109 molten salt electrolytes for hightemperature, 37 reliability analysis of, 223 solid-state Na cells; alternative to, 341 Lithium cell materials transient response to heat and d.c. pulse, 611 Lithium corrosion effect of Na cation on, in aprotic media, 455 Lithium electrode(s) behaviour of, during cycling in nonaqueous solutions, 585 cycleability of, problems of, 563 kinetics of charge-transfer reactions on passive, 129

properties of surface layers formed on, in sulfolane-based electrolytes, 593 Lithium insertion into Fe₂(SO₄)₃ frameworks, 403 into oriented microcrystals and gels of anhydrous and hydrated V pentoxide, 475 Lithium intercalation cathodes modified Cr oxides for high-rate, 409 Lithium negative electrode effects of alloying substrates on characteristics of, 573 Lithium surface layers in aprotic organic electrolytes, properties of, by electrode impedance spectroscopy, 571 Low temperature testing of Li-SOCl₂ cells, 211 Macrokinetic study of thionyl chloride reduction on porous C electrodes, 427 Manganese synthesis and characterization of γ -MnO₂ from LiMn₂O₄, 355 Manganese dioxide –Li battery for multifunctional IC cards, ultra-thin, 369 Manganese oxides for Li secondary battery; composite dimensional Mn oxide (CDMO), 389 Materials science principles related to alloys of potential use in rechargeable Li cells, 109 MEEP LiClO₄-, impedance studies on system, 483 **Microbatteries** integrable Li solid-state, 615 **Micro-Raman study** of electrode surface in Li/SOCl₂ cells, 439 Military applications of Li batteries, 243 Moisture control unit battery dry room facility; relationship between dry room parameters and, 603 Molten salt electrolytes for high-temperature Li cells, 37 Molybdenum Li/MoS₂ and Li,Al/FeS cells, precision cycling and Coulombic efficiency measurements on, 293

Molybdenum trisulfide thin film cathodes prepared by chemical vapor deposition, 103 Molybdic oxides as cathode active materials in secondary Li batteries, 373 Mössbauer spectroscopy pyrite-based cathodes for ambient temperature Li batteries by in situ ⁵⁷Fe, 333 Mössbauer study Redox processes in Li_xFeS₂/Li electrochemical system, 325 Multiplate battery Li/Ag-V oxide, voltage delay and complex impedance characteristics of high-rate, 365

Negative electrodes carbon as, in Li secondary cells, 535 Nickel hexathiodiphosphate properties of amorphous Ni₂P₂S₆, 319 Niobium triselenide unique rechargeable positive electrode material, 65 NMR spectra of H-species in SOCl₂ electrolytes, 415

Organic additives for electrolytes of rechargeable Li batteries, 579 Organic compound discharge and charge characteristics of FeOCl modified by, 467 Organic electrolytes properties of Li surface layers in aprotic, by electrode impedance spectroscopy, 571

Phase relations

and conductivity in system poly(ethylene oxide)-LiClO₄, 503

Plasma CVD

preparation and characterization of
thin film of polymer electrolyte by;
all-solid-state Li batteries, 457

P3-MT electrodes

in LiAlCl₄-SO₂ electrolyte, electrochemical studies of, 553

Poly(ethylene oxide)-LiClO₄

phase relations and conductivity in system, 503

Polymer electrolytes, 23

Li/, batteries, effect of non-stoichiometry on electrode properties of Zr diselenide in, 273 preparation and characterization of thin film of, by plasma CVD; allsolid-state Li batteries, 457 Porous insertion electrodes kinetics of, 139 **Power converters** for Li battery systems, compatible, 607 $P2VP \cdot nI_2$ complexes electrical properties of, 557 Pyrite-based cathodes for ambient temperature Li batteries by in situ ⁵⁷Fe Mössbauer spectroscopy, 333 Pyrolytic carbon as negative electrode, rechargeable Li battery based on, 545 Rechargeable lithium battery(ies) based on pyrolytic C as negative electrode, 545 behaviour of, understanding, 77 development of, in Japan, 257 electrochemical investigation of temperature dependence of inorganic electrolytes in, 511 ethylene carbonate-based electrolytes for, 449 incorporation reaction of Li into V₆O₁₃ in, 347 new, 233 organic additives for electrolytes of, 579 practical, 247 stabilization of LiAsF₆/1,3-dioxolane for use in, 519 Rechargeable Li-S battery, 269 Redox processes in $Li_x FeS_2/Li$ electrochemical system studied through crystal, Mössbauer, and EXAFS analyses, 325 Reliability of implantable Li batteries, 185 Reliability analysis of Li cells, 223 Safety test results of Li-thionyl chloride wound-type cells, 201 Silver Li/Ag-V oxide multiplate battery, voltage delay and complex

impedance characteristics of highrate, 365 Sodium cation effect of, on Li corrosion in aprotic media, 455 Sodium cells solid-state; alternative to Li cells, 341 Spinel oxides LiTi₂O₄ and Li_{4/3}Ti_{5/3}O₄, structure and electrochemistry of, 397 Strontium electrochemical behaviour of Ca in $Ba(AlCl_4)_2$ and $Sr(AlCl_4)_2$ -thionyl chloride solutions; SEI electrodes, 423 Structure of spinel oxides LiTi₂O₄ and Li_{4/3}Ti_{5/3}O₄, 397 Sulfolane-based electrolytes properties of surface layers formed on Li electrodes in, 593 Sulfur rechargeable Li-S battery, 269 Surface layers formed on Li electrodes in sulfolanebased electrolytes, properties of, 593 **Temperature** dependence of inorganic electrolytes in rechargeable Li batteries, electrochemical investigation, 511 TGA/MS studies of thermal decomposition of NH₄VO₃, 461 Thermal decomposition of NH₄VO₃, TGA/MS studies of, 461 Thermodynamic measurements on $Li/SOCl_2$ couple, 441 Thermodynamics non-equilibrium, of transport and reaction in Li cells with liquid or polymeric electrolytes; application to impedance analysis, 491 Thiochromites chemically desodiated, as cathode materials in secondary Li cells, 285 Thionyl chloride electrochemical behaviour of Ca in $Ba(AlCl_4)_2$ and $Sr(AlCl_4)_2$ -thionyl chloride solutions; SEI electrodes, 423electrolytes, NMR spectra of H-species in, 415 kinetics of reduction of, 161

 $Li-SOCl_2$ cell(s) a.c. impedance studies on Li passivating layer of, 419 advanced catalysts for, 597 low temperature testing of, 211 micro-Raman study of electrode surface in, 439 reserve type, 435 wound-type cells, safety test results of. 201 thermodynamic measurements on Li/SOCl₂ couple, 441 Thionyl chloride reduction on porous C electrodes, macrokinetic study, 427 Thionyl chloride solutions properties of, 5 Thiospinels defect: new class of reversible cathode material, 277 Titanium $Li_x TiS_2$, 3R phase of, 301 structure and electrochemistry of spinel oxides $LiTi_2O_4$ and Li4/3Ti5/3O4, 397 Titanium disulphide Li/, secondary battery, 313 rechargeable Li-, cells of spirallywound design, 309

Vanadium incorporation reaction of Li into V_6O_{13} in rechargeable Li battery, 347 Li/Ag-V oxide multiplate battery, voltage delay and complex impedance characteristics of highrate, 365 TGA/MS studies of thermal decomposition of NH₄VO₃, 461 V₂O₅-based glasses as cathodes for Li batteries, 381 Vanadium pentoxide Li insertion into oriented microcrystals and gels of anhydrous and hydrated, 475 Voltage delay and complex impedance characteristics of high-rate Li/Ag-V oxide multiplate battery, 365 Wound-type cells Li-thionyl chloride, safety test results of, 201 Zirconium diselenide effect of non-stoichiometry on electrode properties of, in Li/polymer

electrolyte batteries, 273