

## SUBJECT INDEX

---

- Aerospace cell performance  
 Ni-Cd, effects of long term storage, 297
- Alloys  
 Pb-Ca, in sulphuric acid, electrochemical investigation of, 151
- Aluminium  
 study of reaction kinetics of  $\text{SOCl}_2$  in electrolytes containing  $\text{AlCl}_3$  or  $\text{LiAlCl}_4$ , 119
- Battery(ies)  
 Li, for spinel electrodes, 1  
 Li/Ag vanadium oxide, with various Ag to V ratios, 133  
 Li/ $\text{SOCl}_2$  spacecraft, fault tree safety analysis of large, 207  
 Ni-Zn electric vehicle, pulse power test on nickel oxide electrodes for, 33  
 silver oxide/Zn, quality analysis of reserve-type, by capacitance and phase-angle measurements, 165
- Battery-to-battery charge  
 fast, 91
- Battery development  
 and testing at European Space Agency, 241
- Battery performance  
 international ultraviolet explorer (IUE) spacecraft, update, 283
- Battery separator  
 Grace DAKASEP alkaline, 277
- Battery system  
 NASA aerospace flight, program plan, 177
- Bromine  
 Li/ $\text{SO}_2$  rechargeable cells containing added, 143
- Cadmium  
 earth radiation budget satellite (ERBS) orbiting profiles and Ni-Cd use, 291  
 Ni-, performance relationships, statistically determined, 333  
 Ni-Cd cells  
 limitations in use of plastic-bonded electrodes in sealed, and their reasons  
 button cells, 67  
 prismatic and cylindrical cells, 9  
 with Pellon 2536 separator and passivated positive plates, qualification testing of General Electric 50 A h, 313  
 performance, effects of long term storage on aerospace, 297  
 real time charge efficiency monitoring for Ni electrodes in, and Ni-H cells, 327  
 test summary for advanced hydrogen cycle, 339
- Calcium  
 Pb-, alloys in sulphuric acid, electrochemical investigation of, 151
- Capacitance  
 and phase-angle measurements, quality analysis of reserve-type silver oxide/Zn batteries by, 165
- Cell(s)  
 electrochemical photovoltaic, formed with  $\text{CuInS}_2$  films, 59  
 Li, computer simulation of thermal modeling of primary, 183  
 Li/ $\text{Li}_x\text{CoO}_2$ , rechargeable, 25  
 Li- $\text{SO}_2$   
 chemical analysis of charged, 227  
 new electrolytes for, 157  
 rechargeable, containing added Br, 143
- Ni-Cd  
 limitations in use of plastic-bonded electrodes in sealed, and their reasons  
 button cells, 67  
 prismatic and cylindrical cells, 9  
 with Pellon 2536 separator and passivated positive plates, qualification testing of General Electric 50 A h, 313  
 performance, effects of long term storage on aerospace, 297  
 real time charge efficiency monitoring for Ni electrodes in, 327  
 test summary for advanced hydrogen cycle, 339

- Ni-H
  - effect of overcharge on capacity below 1 V of, 45
  - failure analysis of 3.5 inch, 50 ampere hour, 275
  - real time charge efficiency monitoring for Ni electrodes in, 327
- Charge efficiency monitoring
  - real time, for Ni electrodes in Ni-Cd and Ni-H cells, 327
- Chemical analysis
  - of charged Li-SO<sub>2</sub> cells, 227
- Cobalt
  - rechargeable Li/Li<sub>x</sub>CoO<sub>2</sub> cell, 25
- Computer simulation
  - of thermal modeling of primary Li cells, 183
- Copper
  - on electrochemical photovoltaic cells formed with CuInS<sub>2</sub> films, 59
- Cycling
  - influence of Fe(III) ions on nickel hydroxide electrode during long-term, 77
- Cycling behaviour
  - of polypyrrole-polyethylene oxide composite electrode, 17
- DAKASEP
  - Grace, alkaline battery separator, 277
- Earth radiation budget satellite (ERBS)
  - orbiting profiles and Ni-Cd use, 291
- Electric vehicle batteries
  - Ni-Zn, pulse power tests on nickel oxide electrodes for, 33
- Electrochemical behaviour
  - of lead oxides in aprotic organic electrolyte solutions, 105
- Electrochemical investigation
  - of Pb-Ca alloys in sulphuric acid, 151
- Electrochemical photovoltaic cells
  - formed with CuInS<sub>2</sub> films, 59
- Electrode(s)
  - Fe, open-circuit potential-recovery transients of alkaline porous, 53
  - nickel hydroxide, influence of Fe(III) ions on, during long-term cycling, 77
  - nickel oxide, for Ni-Zn electric vehicle batteries, pulse power tests on, 33
  - polypyrrole-polyethylene oxide composite, cycling behaviour of, 17
  - in sealed Ni-Cd cells, limitations in use of plastic-bonded, and their reasons
    - button cells, 67
    - prismatic and cylindrical cells, 9
  - spinel, for lithium batteries, 1
- Electrolyte(s)
  - containing AlCl<sub>3</sub> of LiAlCl<sub>4</sub>, study of reaction kinetics of SOCl<sub>2</sub> in, 119
  - for Li/SO<sub>2</sub> cells, new, 157
- Electrolyte solutions
  - aprotic organic, electrochemical behaviour of lead oxides in, 105
- European Space Agency
  - battery development and testing at, 241
- Failure analysis
  - of 3.5 inch, 50 ampere hour Ni-H cell, 275
- Fault tree safety analysis
  - of large Li/SOCl<sub>2</sub> spacecraft battery, 207
- General Electric
  - 50 A h Ni-Cd cells with Pellon 2536 separator and passivated positive plates, qualification testing of, 313
- Grace DAKASEP
  - alkaline battery separator, 277
- Hydrogen
  - Ni-, technology, advances in, 267
  - Ni-H cells
    - effect of overcharge on capacity below 1 V of, 45
    - failure analysis of 3.5 inch, 50 ampere hour, 275
    - real time charge efficiency monitoring for Ni electrodes in Ni-Cd and, 327
- Hydrogen cycle
  - Ni-Cd, test summary for advanced, 339
- Indium
  - on electrochemical photovoltaic cells formed with CuInS<sub>2</sub> films, 59
- International ultraviolet explorer (IUE)
  - spacecraft battery performance update, 283
- Iron
  - influence of Fe(III) ions on nickel hydroxide electrode during long-term cycling, 77

## Iron electrodes

- open-circuit potential-recovery transients of alkaline porous, 53

## Lead

- Ca alloys in sulphuric acid, electrochemical investigation of, 151

## Lead oxides

- electrochemical behaviour of, in aprotic organic electrolyte solutions, 105

## Lithium

- /Ag vanadium oxide batteries with various Ag to V ratios, 133
- chemical analysis of charged Li-SO<sub>2</sub> cells, 227
- computer simulation of thermal modeling of primary Li cells, 183
- fault tree safety analysis of large Li/SOCl<sub>2</sub> spacecraft battery, 207
- MOLICEL<sup>®</sup> rechargeable Li system: multicell aspects, 195
- rechargeable Li/Li<sub>x</sub>CoO<sub>2</sub> cell, 25
- /SO<sub>2</sub> cells, new electrolytes for, 157
- /SO<sub>2</sub> rechargeable cells containing added Br, 143
- study of reaction kinetics of SOCl<sub>2</sub> in electrolytes containing AlCl<sub>3</sub> or LiAlCl<sub>4</sub>, 119

## Lithium batteries

- spinel electrodes for, 1

## Long term storage

- effects of, on aerospace Ni-Cd cell performance, 297

MOLICEL<sup>®</sup>

- rechargeable Li system: multicell aspects, 195

## Nickel

## -Cd cells

- limitations in use of plastic-bonded electrodes in sealed, and their reasons
  - button cells, 67
  - prismatic and cylindrical cells, 9
- with Pellon 2536 separator and passivated positive plates, qualification testing of General Electric 50 A h, 313
- performance, aerospace, effects of long term storage on, 297
- test summary for advanced hydrogen cycle, 339

- Cd performance relationships, statistically determined, 333
- earth radiation budget satellite (ERBS) orbiting profiles and Ni-Cd use, 291

## -H cells

- effect of overcharge on capacity below 1 V of, 45
- failure analysis of 3.5 inch, 50 ampere hour, 275
- H technology, advances in, 267
- real time charge efficiency monitoring for Ni electrodes in Ni-Cd and Ni-H cells, 327
- Zn electric vehicle batteries, pulse power tests on nickel oxide electrodes for, 33

## Nickel hydroxide electrodes

- influence of Fe(III) ions on, during long-term cycling, 77

## Nickel oxide

- electrodes for Ni-Zn electric vehicle batteries, pulse power tests on, 33

## Orbiting profiles

- earth radiation budget satellite (ERBS), and Ni-Cd use, 291

## Overcharge

- effect of, on capacity below 1 V of Ni/H cells, 45

## Pellon 2536 separator

- qualification testing of General Electric 50 A h Ni-Cd cells with, and passivated positive plates, 313

## Performance relationships

- Ni-Cd, statistically determined, 333

## Photovoltaic cells,

- on electrochemical, formed with CuInS<sub>2</sub> films, 59

## Polyethylene oxide

- polypyrrole-, composite electrode, cycling behaviour of, 17

## Polypyrrole

- polyethylene oxide composite electrode, cycling behaviour of, 17

## Potential-recovery transients

- open-circuit, of alkaline porous Fe electrodes, 53

## Pulse power tests

- on nickel oxide electrodes for Ni-Zn electric vehicle batteries, 33

## Qualification testing

- of General Electric 50 A h Ni-Cd cells

- with Pellon 2536 separator and passivated positive plates, 313
- Quality analysis
  - of reserve-type silver oxide/Zn batteries by capacitance and phase-angle measurements, 165
- Reaction kinetics
  - of  $\text{SOCl}_2$  in electrolytes containing  $\text{AlCl}_3$  or  $\text{LiAlCl}_4$ , 119
- Safety analysis
  - fault tree, of large  $\text{Li/SOCl}_2$  spacecraft battery, 207
- Silver
  - $\text{Li/Ag}$  vanadium oxide batteries with various  $\text{Ag}$  to  $\text{V}$  ratios, 133
- Silver oxide
  - /Zn batteries, quality analysis of reserve-type, by capacitance and phase-angle measurements, 165
- Solar concentrator
  - simplified model for, 113
- Spacecraft battery
  - international ultraviolet explorer (IUE), performance update, 283
  - large  $\text{Li/SOCl}_2$ , fault tree safety analysis of, 207
- Spinel electrodes
  - for lithium batteries, 1
- Sulfur
  - fault tree safety analysis of large  $\text{Li/SOCl}_2$  spacecraft battery, 207
  - $\text{Li-SO}_2$  cells
    - chemical analysis of charged, 227
    - new electrolytes for, 157
    - rechargeable, containing added  $\text{Br}$ , 143
  - study of reaction kinetics of  $\text{SOCl}_2$  in electrolytes containing  $\text{AlCl}_3$  or  $\text{LiAlCl}_4$ , 119
- Test summary
  - for advanced hydrogen cycle  $\text{Ni-Cd}$  cell, 339
- Thermal modeling
  - of primary  $\text{Li}$  cells, computer simulation of, 183
- Vanadium
  - $\text{Li/Ag}$  vanadium oxide batteries with various  $\text{Ag}$  to  $\text{V}$  ratios, 133
- Zinc
  - $\text{Ni-}$ , electric vehicle batteries, pulse power tests on nickel oxide electrodes for, 33
  - silver oxide/, batteries, quality analysis of reserve-type, by capacitance and phase-angle measurements, 165