

REFERENCES

References

- Amin Idrees M., Hashim M. and Ali A.A.A., (2000) "Low temperature preparation of LiCoO₂ cathodes for rechargeable lithium-ion batteries", in "*Electrochemical Power Sources: Materials and Characterisation*", (eds) A. K. Arof, N.S. Mohamed, R.H.Y. Subban, S.A. Hashim Ali and M.Z.A. Yahaya, Universiti Malaya Press, Kuala Lumpur, 167-174.
- Arai H., Okada S., Sakurai Y., Yamaki J., (1998) "Thermal behaviour of Li_{1-y}NiO₂ and the decomposition mechanism", *Solid State Ionics* 106, 45-53.
- Arof A.K., Basirun W.J., Kamarulzaman N. and Osman Z., (1999) in "*Experimental Techniques in The Synthesis and Characterization of Materials for Battery Application*", University of Malaya Press, Kuala Lumpur.
- Abraham K.M., (1993) "Directions in secondary lithium battery research and development", *Electrochimica Acta*, Vol. 38, No. 9, 1233-1248.
- Amatucci G.G., Tarascon J.M., Klein L.C., (1996) "Cobalt dissolution in LiCoO₂-based non-aqueous rechargeable batteries", *Solid State Ionics* 83, 163-173.
- Anderman M., (1994) "Lithium-polymer batteries for electric vehicles: A realistic view", *Solid State Ionics* 69, 336-342.
- Basirun W.J., (2000) "Cyclic voltammetry and its use in understanding electrochemical reaction", in "*Electrochemical Power Sources: Materials and characterization*", (eds.) A.K.Arof, N.S. Mohamed, R.H.Y. Subban, S.A. Hashim Ali and M.Z.A. Yahaya, Universiti Malaya Press, Kuala Lumpur, 43 - 55.
- Beck F., Rüetschi P., (2000) "Rechargeable batteries with aqueous electrolytes", *Electrochimica Acta* 45, 2467-2482.
- Brandt K., (1994) "Historical development of secondary lithium batteries", *Solid State Ionics* 69, 173-183.
- Broussely M., Biensan P., Simaon B., (1999) "Lithium insertion into host materials: the key to success for Li ion batteries", *Electrochimica Acta* 45, 3-22.
- Broadhead J. and Kuo H.C. (1994) "Electrochemical principles and reactions", in "*Handbook of Batteries*", David Linden, McGraw Hill, Inc, USA, 2.1 - 2.35.
- Caurant D., Baffer N., Garcia B., Pereira-Ramos J.P., (1996) "Synthesis by a soft chemistry route and characterization of LiNi_xCoO₂ (0 < x > 1) cathode materials", *Solid State Ionics* 91, 45-54.

- Ceder G. and Aydinol M.K., (1998) "The electrochemical stability of lithium-metal oxides against metal reduction", *Solid State Ionics* 109, 151-157.
- Chang C.C., Scarr N., Kumta P.N., (1998) "Synthesis and electrochemical characterization of LiMO₂ (M = Ni, Ni_{0.75}Co_{0.25}) for rechargeable lithium ion batteries", *Solid State Ionics* 112, 329-344.
- Choi Y.M., Pyun S.I., Moon S.I., (1996) "Synthesis and electrochemical characterization of LiMO₂ (M = Ni, Ni_{0.75}Co_{0.25}) for rechargeable lithium ion batteries", *Solid State Ionics* 89, 43-52.
- Choi Y.M., Pyun S.I., Moon S.I., (1997) "Effects of intercalation -induced stress lithium transport through porous LiCoO₂ electrode" *Solid State Ionics* 99, 173-183.
- Chowdari B.V.R. and Rao G.V.S., (2000) "Lithium ion battery materials: Recent trends", Proceedings of 7th Asian Conference, China, *Solid State Materials and Ionics* 223-230.
- Courtney I.A. and Dahn J.R., (June 1997) "Electrochemical and in-situ X-ray diffraction studies of the reaction of lithium with tin oxide composites", *Electrochem Soc.*, Vol. 144, No. 6, 2045-2052.
- Dunn B., Farrington G.C and Katz B., (1994) "Sol-gel approaches for solid electrolytes and electrode materials", *Solid State Ionics* 70/71, 3-10.
- Fritz J.S. and Schenk G.H., (1979) "*Quantitative Analytical Chemistry*", 4th ed.
- Glusker J.P, and Trueblood K.N., (1985) "*Crystal Structure Analysis A Primer*", Oxford University Press.
- Guan J., Liu M., (1998) "Transport properties of LiMn₂O₄ electrode materials for lithium-ion batteries", *Solid State Ionics* 110, 21-28.
- Gummow R.J. and Thackery M.M., (1992) "Lithium-cobalt-nickel-oxide cathode materials prepared at 400 °C for rechargeable lithium batteries", *Solid State Ionics* 53-65, 681-687.
- Guyomard and Tarascon, (1994) "The carbon/ Li_{1+x}Mn₂O₄ system", *Solid State Ionics* 69, 222-237.
- Harris W.E. and Kratochvil B., (1982) "*An Introduction to Chemical Analysis*", Holt-Sounders International Editions.
- Heineman W.R. and Kissinger P.T., (1996) "*Laboratory Techniques in Electroanalytical Chemistry*", 2nd Edition.

- Hernán L., Moarles J., Sánchez L., Santos J., (1999) "Use of Li-M-Mn-O [M=Co, Cr, Ti] spinels prepared by a sol-gel method as cathodes in high-voltage lithium batteries", *Solid State Ionics* 118, 179-185.
- Hosaya M., Ikuta H., Wakihara M., (1998) "Single phase region of cation substituted spinel $\text{LiM}_y\text{Mn}_{2-y}\text{O}_{4.5}$ ($\text{Mn}=\text{Cr}, \text{Co}$ and Ni) and cathode property for lithium secondary battery", *Solid State Ionics* 111, 153-159.
- Hossain S., (1994) "Rechargeable lithium batteries", in "Handbook of Batteries", David Linden, McGraw-Hill, Inc., U.S.A., 36.1 - 36.7.
- Huang H. and Bruce P.G., J., (September 1994) "A 4V lithium manganese oxide cathode for rocking chair lithium ion cells", *Electrochem. Soc.*, Vol.141, No. 9, L106-L107.
- Imanishi N., Fujiyoshi M., Takeda Y., Yamamoto O., Tabuchi M., (1999) "Preparation and ^{7}Li -NMR study of chemically delithiated $\text{Li}_{1-x}\text{CoO}_2$ ($0 < x > 0.5$)", *Solid State Ionics* 118, 121-128.
- Jacob M.M.E., Hassan M.S., Daud J., Arof A.K., (1999) "A new cathode material for LiCu_2O_2 for secondary lithium batteries", *Journal of New Materials for Electrochemical Systems* 3, 3-7.
- Jacob M.M.E., (1999) PhD. Thesis, University Of Malaya.
- Jang Y.I., Huang B., Wang H., Maskaly G.R., Ceder G., Sadoway D., Chiang Y.M., Liu H., Tamura H., (1999) "Synthesis and characterization of $\text{LiAl}_x\text{Co}_{1-y}\text{O}_2$ and $\text{LiAl}_x\text{Ni}_{1-y}\text{O}_2$ ", *Journal of Power Sources* 81-82, 589-593.
- Jones S.D., Akridge J.R., Shokoohi F.K., (1994) "Thin film rechargeable batteries", *Solid State Ionics* 69, 357-368.
- Kang S.G., Kang S.Y., Ryu K.S., Chang S.H., (1999) "Electrochemical and structural properties of HT- LiCoO_2 and LT- LiCoO_2 prepared by citrate sol-gel method", *Solid State Ionics* 120, 155-161.
- Katz H., Bogel W., Büchel J.-P., (1998) "Industrial awareness of lithium batteries in the world, during the past two years", *Journal of Power Sources* 72, 43-50.
- Kawakita J., Katyama Y., Miura T., Kishi Y., (1998) "Lithium insertion behaviour of $\text{Li}_{1+x}\text{V}_3\text{O}_8$ prepared by precipitation technique", *Solid State Ionics* 110, 99-207.
- Kawakita J., Miura T., Kishi T., (1999) "Charging characteristics of $\text{Li}_{1+x}\text{V}_3\text{O}_8$ ", *Solid State Ionics* 118, 141-147.

- Kawakita J., Miura T., Kishi T., (1999) "Comparison of $\text{Na}_{1+x}\text{V}_3\text{O}_8$ with $\text{Li}_{1+x}\text{V}_3\text{O}_8$ as lithium insertion host", *Solid State Ionics* 124, 21-28.
- Kim D., Sun Y., (1998) "Effect of mixed solvent electrolytes on cycling performance of rechargeable $\text{Li}/\text{LiNi}_{0.5}\text{Co}_{0.5}\text{O}_2$ cells with gel polymer electrolytes", *Solid State Ionics* 111, 243-252.
- Koksbang R., Barker J., Shi H., Saidi M.Y., (1996) "Cathode materials for lithium rocking chair batteries", *Solid State Ionics* 84, 1-21.
- Koksbang R., Olsen I.I., Shackle D., (1994) "Review of hybrid polymer electrolytes and rechargeable lithium batteries", *Solid State Ionics* 69, 320-335.
- Krovin N.V., (1998) "Electrochemical intercalation into cathodic materials: The intercalated material structure and its variation", *Russian Journal of Electrochemistry* Vol. 34, No. 7, 662-668.
- Lee K.K., W.S., Kim K.B. (2000) "Characterization of $\text{LiNi}_{0.85}\text{Co}_{0.1}\text{M}_{0.05}\text{O}_2$ ($\text{M}=\text{Co, Al, Fe}$) for lithium secondary batteries", *10th International Meeting on Lithium Batteries, "Lithium 2000"*, Italy, Abstract No.174.
- Lee Y.S., Sun Y.K., Nahm K.S., (1999) "Synthesis and characterization of LiNiO_2 cathode material prepared by an adipic acid sol-gel method for lithium secondary batteries", *Solid State Ionics* 118, 159-168.
- Levi E., Levi M.D., Salitra G., Aurbach D., Oesten R., Heider U., Heider L., (1999) "Electrochemical and in-situ XRD characterization of LiNiO_2 and $\text{LiCo}_{0.2}\text{Ni}_{0.8}\text{O}_2$ electrodes for rechargeable batteries", *Solid State Ionics* 126, 97-108.
- Li H., Huang X., Chen L., (1999) "Anodes based on oxide materials for lithium rechargeable batteries", *Solid State Ionics* 123, 189-197.
- Linden D., (1994) "Basic concepts", in "*Handbook of Batteries*", David Linden, McGraw Hill Inc., 1.3 - 1.10.
- Linden D., (1994) "Factors affecting battery performance", in "*Handbook of Batteries*", David Linden, McGraw Hill Inc., 3.1 - 3.20.
- Linden D., (1994) "Introduction of primary batteries", in "*Handbook of Batteries*", David Linden, McGraw Hill Inc., 7.3 - 7.22.
- Linden D., (1994) "Li cell for primary batteries", in "*Handbook of Batteries*", David Linden, McGraw Hill Inc., 14.1 - 14.91.
- Lister T. and Renshaw J., (2000) "*New Understanding Chemistry*", 4th Edition, Stanley Thornes Publishers Ltd. UK.

- Liu Y., Fujiwara T., Yukawa H., Morinaga M., (2001) "Chemical bonding in lithium intercalation compound $\text{Li}_x\text{Mn}_2\text{O}_4$ ($x=0,1,2$)", *Electrochimica Acta* 46, 1151- 1159.
- Liu Z, Lee J.Y, Linder H.J., (2000) "Effects of conducting carbon on the electrochemical performance of LiCoO_2 and LiMn_2O_4 cathodes", *10th International Meeting on Lithium Batteries*, "Lithium 2000", Italy, Abstract No.153.
- Molenda J., Wilk P., Marzec J., (1999) "Transport properties of the $\text{LiNi}_{1-y}\text{Co}_2$ system", *Solid State Ionics* 119,19-22.
- Nakamura K., Yamamoto M., Okamura K., Michihiro Y., Nakabayashi I., Kanashiro T., (1999) "NMR investigation on the motion of Li^+ defects in LiCoO_2 and LiNiO_2 ", *Solid State Ionics* 121, 301-306.
- Naghash A.R., Lee J.Y, (2001) "Lithium nickel oxyfluoride ($\text{Li}_{1-z}\text{Ni}_{1+z}\text{F}_y\text{O}_{2-y}$) and lithium oxide ($\text{Li}_{1-z}(\text{Mg}_{x}\text{Ni}_{1-x})_{1+z}\text{O}_2$) cathodes for rechargeable batteries", *Electrochimica Acta* 46, 941-945.
- Narukawa S., Takeda Y., Nishijima M., Imanishi N., Yamamoto O., Tabuchi M., (1999) "Antifluorite type Li_4CoO_4 , Li_5FeO_4 and Li_6MnO_4 as the cathode for lithium secondary batteries", *Solid State Ionics* 122, 59-64.
- Obrovac M.N., Mao O., Dahn J.R., (1998) "Structure and electrochemistry of LiMO_2 ($\text{M}=\text{Ti, Mn, Fe, Co, Ni}$) prepared by mechanochemical synthesis", *Solid State Ionics* 112, 9-19.
- Oh I -H., Hong S - A., and Sun Y -K., (1997) "Low-temperature preparation of ultrafine LiCoO_2 powders by sol-gel method", *Journal of Materials Science* 32, 3177-3182.
- Ohzuku T. and Ueda A., (1994) "Why transition metal (di)oxides are the most attractive materials for batteries", *Solid State Ionics* 69, 201 - 211.
- Ohzuku T., (1998) "Insertion materials for advanced lithium batteries", in "Trends in Material Science", (ed) S.Radhakrishnan, Narosa Publishers, 1-23.
- Ouvrard G. and Guyomard D., (1996) "Intercalation chemistry", *Current Opinion in Solid State and Materials Science* 1, 260-267.
- Owens B.B., Passerini S., Smyrl W.H., (1999) "Lithium ion insertion in porous metal oxides", *Electrochimica Acta* 45, 215-224.
- Pachler K.G.R., Matlok F., Gremlich H.U., (1988) "Merck FT - IR Atlas".
- Pine S.H., (1987) "Organic Chemistry", 5th edition, McGraw Hill Book Company.

- Prabaharan S.R.S. and Radhakrishna S., "Rechargeable lithium-ion batteries: Material choice, fabrication and characterization", (1998) in "*Trends in Materials Science*", S.Radhakrishnan, Narosa Publisher, 64-82.
- Prabaharan S.R.S., Saparil N.B., Michael S.S., Massot S., Julien C., (1998) "Soft-chemistry synthesis of electrochemically-active spinel LiMn_2O_4 for Li-ion batteries", *Solid State Ionics* 112, 25-34.
- Rahner D., Machill S., Schlorb H., Siury K., Kloß M., Plieth W., (1996) "Intercalation materials for lithium rechargeable batteries", *Solid State Ionics* 80-88, 891-896.
- Rougier A., Saadoune I., Gravereau P., William P., Delmas C., (1996) "Effect of cobalt substitution on cationic distribution in $\text{LiNi}_{1-y}\text{Co}_y\text{O}_2$ electrode materials", *Solid State Ionics* 90, 83-90.
- Ritchie A.G., Giwa C.O., Lee J.C., Bowles P., Gilmour A., Allan J., Rice D.A., Brady F., Tsang S.C.E., (1999) "Future cathode materials for lithium rechargeable batteries", *Journal of Power Sources* 80, 98-102.
- Satoh A., Takami N., Ohsaki T., (1995) "Electrochemical intercalation of lithium into graphitized carbons", *Solid State Ionics* 80, 291-298.
- ScrosatiB., (1993) "Insertion compounds for lithium rocking chair batteries", "*Applications of Electroactivities Polymers*", Chapman and Hall, London.
- Scrosati B., (2000) "Recent advances in lithium ion battery materials", *Electrochimica Acta* 45, 2461-2466.
- "Shimadzu Instruction Manual".
- Skoog D.A. and West D.M., (1980) "*Principles of Instrumental Analysis*", 2nd Edition, Holt-Saunders, Japan
- Song M.Y., Ahn D.S., (1998) "Improvement in cycling performance of LiMn_2O_4 by the substitution of Fe for Mn", *Solid State Ionics* 112, 245-248.
- Tao S., Wu Q., Zhan Z., Meng G., (1999) "Preparation of LiMO_2 (M=Co, Ni) cathode materials for intermediate temperature fuel cells by sol-gel processes", *Solid State Ionics* 124, 53-59.
- Tenakoon T.M.T.N., Lindbergh G., and Bergman B., (July 1997) "Performance of LiCoO_2 cathodes, prepared using the Pechini method, in molten carbonate fuel cells *Electrochim.Soc.*, Vol. 144, No.7, 2296-2230.
- Vincent C.A. "Recent development in battery technology",
<http://enviro.mond.org/9618/961815.html>

Wang Y., Sakamoto J., Huang C.K., Surampadi S., Greenbaum S.G., (1998) "Lithium - 7 NMR investigation of electrochemical reaction of lithium with SnO", *Solid State Ionics* 110, 167-172.

Weaving J.S., Coowar F., Teagle D.A., Cullen J., Dass V., Bindin P., Green R. and Macklin W.J., (2000) "Development of high energy density Li-ion batteries base on $\text{LiNi}_{1-x-y}\text{Co}_x\text{Al}_y\text{O}_2$ ", *10th International Meeting on Lithium Batteries*, "Lithium 2000", Italy, Abstract No.358.

Willard H.H., Merritt L.L, Dean J.A., Settle F.A., (1981) *Instrumental Methods of Analysis*, 6th Edition, Wadsworth Publishing Company, California.

Wu X., Yang Q., Jin Z., Song Q., Ma X., (2000), "Capacity compensated of substituted spinel $\text{LiM}_y\text{Mn}_{2-y}\text{O}_4$ with $\text{LiM}_y\text{Mn}_{2-y}\text{O}_{4-z}\text{F}_z$ ($M=\text{Al}$, / Cr) for lithium secondary batteries", Proceedings of 7th Asian Conference, China, *Solid State Ionics Material and Device*, 243-247.

Yan H., Huang X., Li H., Chen L., (1998) "Electrochemical study on LiCoO_2 synthesized by microwave", *Solid State Ionics* 113-115, 11-15.

Yokokawa H., Sakai N., Yamaji K., Horita T., Ishikawa M., (1998) "Thermodynamic determining factors of the positive electrode potential of lithium batteries", *Solid State Ionics* 113-115, 1-9.

Zhecheva E. and Stoyanova R., (1993) "Stabilization of the layered crystal stucture of LiNiO_2 by Co- substitution", *Solid State Ionics* 66, 143-149.

Zishan Z., Zilong T., Zhongtai Z., Wanci S., Jian D., (2000) "A simplified preparation of overlithiated spinel phase LiMn_2O_4 and its electrochemical characterization", Proceedings of 7th Asian Conference, China, *Solid State Ionics Material and Device*, 237-241.

Zhong S., Wang G.X., Wang J., Bradhurst D.H., Ionescu M., Dou S.X. and Yu H.K., (2000) "An anode material with pervoskite structure for rechargeable batteries", *Journal of New Materials For Electrochemical Systems* 3, 9-12.