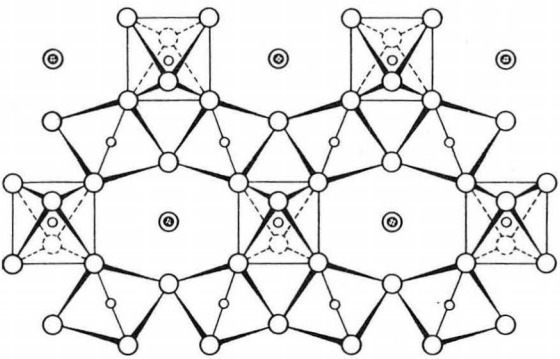
Pub-482

PROGRAM

RECEIVED
LAWRENCE
BERKELEY LABORATORY
APR 2 1985
LIBRARY AND
DOCUMENTS SECTION

SSI
Lake Tahoe ·85

5TH INTERNATIONAL CONFERENCE ON SOLID STATE IONICS



Lake Tahoe
USA
AUGUST 18–24, 1985

PUB-482

INTERNATIONAL SCIENTIFIC COMMITTEE

J. B. Bates – Oak Ridge National Laboratory, USA

E. Budevski – Central Laboratory of Electrochemica
Power Sources, Bulgaria

S. Chandra – Banaras Hindu University, India

W. Dieterich – Konstanz University, W. Germany

G. C. Farrington – University of Pennsylvania, USA

P. Hagenmuller – CNRS Bordeaux, France

M. Kleitz – INP. CNRS Grenoble, France

B. B. Owens – Medtronix, Inc., USA

B. Sapoval – Ecole Polytechnique, Palaisseau, Fran

J. Schoonman – Utrecht University, Netherlands

H. Schulz – University of Munchen, W. Germany

B. Scrosati – University of Rome, Italy

B. C. H. Steele – Imperial College, London, UK

T. Takahashi – Nagoya, Japan

U. Von Alpen – Varta Batteries AG., W. Germany

C. A. Vincent – St. Andrews University, UK

W. Weppner – Max Planck, Stuttgart, W. Germany

CO-CHAIRMEN

James B. Boyce, Xerox Palo Alto
Research Center
Palo Alto, CA 94394, USA

Lutgard C. De Jonghe
Materials and Molecular Research Division
Lawrence Berkeley Laboratory
Berkeley, CA 94720, USA

Robert A. Huggins
Department of Materials Science and Engineering
Stanford University
Stanford, CA 94305, USA

LBL CONFERENCE COORDINATOR

Peggy Little
Lawrence Berkeley Laboratory
Berkeley, CA 94720, USA
(415) 486-6386; FTS: 451-6386

DISCLAIMER

This document was prepared as an account of work sponsored by the United States Government. While this document is believed to contain correct information, neither the United States Government nor any agency thereof, nor the Regents of the University of California, nor any of their employees, makes any warranty, express or implied, or assumes any legal responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by its trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof, or the Regents of the University of California. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof or the Regents of the University of California.

PLENARY SESSIONS

Plenary Session A — Monday, 11:25 - 12:25

Chairman: J.B. Bates

A-1 D.W. Murphy, Insertion Reaction Electrode Materials

A-2 H. Schulz, Application of Diffraction Methods to Study Fast Ionic Conductors

Plenary Session B — Monday, 4:00 - 5:00

Chairman: G.C. Farrington

B-1 M. Armand, Polymer Electrolytes

B-2 P. Vashishta, Use of Computer Simulation Techniques to Study Atomic Migration in Solids

Plenary Session C — Tuesday, 10:55 - 11:55

Chairman: P. Hagenmuller

C-1 A. Clearfield, M.A. Subramanian, P.R. Rudolf, and A. Moini, Stoichiometry, Structure and Conductivity of NASICON

C-2 B. Sapoval, M. Rosso, J.F. Gouyet, and J.F. Colonna, Dynamics of the Creation of Fractal Objects by Intercalation

Plenary Session D — Wednesday, 11:25 - 12:25

Chairman: J. Schoonman

D-1 B. Dunn, Recent Developments in Beta" Aluminas

D-2 I.D. Raistrick, The Application of Impedance Spectroscopy to Problems in Solid State Ionics

Plenary Session E — Wednesday 4:00 - 5:00

Chairman: T. Takahashi

E-1 P. Heitjans, Use of Beta Radiation-Detected NMR to Study Ionic Motion in Solids

E-2 S.H. Liu, T. Kaplan and L.J. Gray, AC Response of Fractal Interfaces

Plenary Session F — Thursday 11:25 - 12:25

Chairman: C.A. Vincent

F-1 C.A. Angell, Recent Developments in Fast Ion Transport in Glassy and Amorphous Materials

F-2 P.G. Dickens, and S. Crouch-Baker, Hydrogen Insertion Compounds of Transition Metal Oxides

Plenary Session G — Thursday 4:00 - 5:00

Chairman: W. Weppner

G-1 M. Kleitz, P. Fabry, J.F. Million-Brodaz, and E. Siebert-Mantel, Solid Ionic Conductors in Chemical Sensors

G-2 F.J. Salzano, Application of Solid Oxide Electrolytes to Water Vapor Electrolysis

SCHEDULE

Sunday, August 18

7:00 PM	Reception at Northstar

Monday, August 19

8:30 AM	Contributed Session 1
Auditorium	1-A Theory (TH-1 - TH-7)
Blue Room	1-B Polymers (P-1 - P-7)
Red Room	1-C Glasses (G-1 - G-7)
Green Room	1-D Alkali Conductors (AC-1 - AC-7)
10:35-11:25	Refreshments, Posters for Session 1, A-D
11:25-12:25	Plenary Session A
	A-1 D.W. Murphy
	A-2 H. Schulz
12:30-1:15	Lunch at Truckee High School
1:20-3:00	Contributed Session 2
Auditorium	2-A Beta Alumina (BA-1 - BA-8)
Blue Room	2-B Oxide Conductors (O-1 - O-8)
Red Room	2-C Electrode Materials (EM-1 - EM-8)
Green Room	2-D Experimental Techniques (ET-1 - ET-8
3:00-4:00	Refreshments, Posters for Session 2, A-D
4:00-5:00	Plenary Session B
	B-1 M. Armand
	B-2 P. Vashishta

Tuesday, August 20

8:30-9:54	Contributed Session 3
Auditorium	3-A Theory (TH-8 - TH-14)
Green Room	3-B Alkali Conductors (AC-8 - AC-14)
Blue Room	3-C Nasicon (NA-1 - NA-7)
Red Room	3-D Glasses (G-8 - G-14)
9:55-10:55	Refreshments, Posters for Session 3, A-D
10:55-11:55	Plenary Session C
	C-1 A. Clearfield
	C-2 B. Sapoval
7:00 PM	OUTDOOR BARBECUE AT NORTHSTAR

Wednesday, August 21

9:00-10:24	Contributed Session 4
Auditorium	4-A Theory (TH-15 - TH-21)
Blue Room	4-B Proton Conductors (PC-1 - PC-7)
Red Room	4-C Polymers (P-8 - P-14)
Green Room	4-D Interfacial Effects (I-1 - I-7)
10:25-11:25	Refreshments, Posters for Session 4, A-D
11:25-12:25	Plenary Session D
	D-1 B. Dunn
	D-2 I.D. Raistrick
12:30-1:15	Lunch at Truckee High School
1:20-3:00	Contributed Session 5
Green Room	5-A Batteries (B-1 - B-8)
Blue Room	5-B Oxide Conductors (O-9 - O-16)
Red Room	5-C Electrode Materials (EM-9 - EM-16)
Auditorium	5-D Beta Alumina (BA-9 - BA-16)
3:00-4:00	Refreshments, Posters for Session 5, A-D
4:00-5:00	Plenary Session E
	E-1 P. Heitjans
	E-2 S. Liu

hursday, August 22

9:00-10:24		Contributed Session 6
Auditorium	6-A	Theory (TH-22 - TH-28)
Blue Room	6-B	Alkali Conductors (AC-15 - AC-21)
Red Room	6-C	Glasses (G-15 - G-21)
Green Room	6-D	Electrolytes, General (EG-1 - EG-7)
10:25-11:25		Refreshments, Posters for Session 6, A-D
11:25-12:25		Plenary Session F
	F-1	C.A. Angell
	F-2	P.G. Dickens
12:25-1:15		Lunch at Truckee High School
1:20-3:00		Contributed Session 7
Auditorium	7-A	Beta Alumina (BA-17 - BA-24)
Red Room	7-B	Electrode Materials (EM-16 - EM-23)
Blue Room	7-C	Experimental Techniques (ET-9 - ET-15)
Green Room	7-D	Fluoride Conductors (FC-1 - FC-4)
		Other Applications (OA-1 - OA-4)
3:00-4:00		Refreshments, Posters for Session 7, A-D
4:00-5:00		Plenary Session G
	G-1	M. Kleitz
	G-2	F.J. Salzano
7:00 PM		CONFERENCE BANQUET, TOP OF SQUAW VALLEY

ridsy, August 23

9:00-10:24		Contributed Session 8
Auditorium	8-A	Theory (TH-29 - TH-35)
Red Room	8-B	Glasses (G-22 - G-28)
Blue Room	8-C	Other Conductors (OC-1 - OC-7)
Green Room	8-D	Sensors (S-1 - S-5)
10:25-10:45		Refreshments
10:45-11:45		Contributed Session 9
Auditorium	9-A	Polymers (P-15 - P-19)
Blue Room	9-B	Other Conductors (OC-8 - OC-12)
Red Room	9-C	Alkali Conductors (AC-23 - AC-24)
		Glasses (G-29 - G31)
11:45-12:45		Posters for Session 8, A-D & 9, A-C

Afternoon Free

Authors Please Note:

Please mount your posters on the poster boards BEFORE the Poster Session at which they are to be presented.

Also, please take them down IMMEDIATELY AFTER your Poster Session, so that the boards are available for use for the next Poster Session.

Monday AM

SESSION 1-A
THEORY

Chairman:
K. Funke

TH-1 Donald R. Franceschetti, Equivalent Circuits for Reaction Diffusion Sequences at Three-Phase Electrodes

TH-2 J.E. Hammerberg, Particle Correlations in Silver Chromiu Sulfide and Selenide Layered Compounds

TH-3 Stephen D. Druger, A. Nitzan and Mark A. Ratner, Dynamic Bon Percolation and Effective-Medium Models for Ionic Conductio in Polymer Electrolytes

TH-4 A.N. Cormack and C.R.A. Catlow, Ionic Transport in Anio Deficient Fluorite Oxides

TH-5 J.C. Wang and N.J. Dudney, Model for the Composition Depen dence of Conductivity of an Ionic Conductor Containing Sub micron Insular Particles

TH-6 J.L. Bjorkstam, J. Listerud and M. Villa, NMR T_1 and Lin Narrowing in Superionics - a Consistent Interpretation

TH-7 B.V.R. Chowdari, P.S. Neelakantaswamy and S.K. Akhter, Appli cation of the Logarithmic Law of Mixing for the Estimation o Complex Permittivity and Electrical Conductivity of Fast Io Conductors at Microwave Frequencies

Monday AM

SESSION 1-B
POLYMERS

Chairman:
B.C.H. Steele

P-1 J.J. Fontanella, M.C. Wintersgill, J.P. Calame, M.K. Smith P.J. Welcher, and C.G. Andeen, DCS, Dielectric Relaxaion an High Pressure Conductivity Studies of Poly(Propylene Oxide Complexed with Alkali Metal Salts

P-2 D.F. Shriver, P.M. Blonsky, L.C. Hardy, H.R. Allcock, P Austin and J. Sisko, New Polyphosphazene and Polyelectrolyt Solid Electrolytes

P-3 Paola Ferloni, Aldo Magistris and Manlio Sanesi, Ion Trans port and Thermal Properties of Polyethylene Oxide - Lthiu Perchlorate Complexes

P-4 Dale Teeters and Roger Frech, Temperature-Dependent Spectro scopic Studies of Poly(Propylene Oxide) and Poly(Propylen Oxide)-Inorganic Salt Complexes

P-5 Yukio Ito, Kiyoaki Shakushiro, Katsuki Miyauchi and Tetsuich Kudo, Structure and Ionic Conductivity in Evaporated Thi Films of Poly(Ethylene Oxide) Complexed with $LiCf_3SO_3$

P-6 N.L.D. Somasiri, A.G. MacDiarmid and A.R. McGhie, Characteri zation and Thermal Stability of Polyaniline $(ON)_x$

P-7 Fiona M. Gray, James R. MacCallum and Colin A. Vincent Poly(Ethelene Oxide)-$LiCF_3SO_3$-Polystyene Electrolyte Systems

Monday AM

SESSION 1-C
GLASSES

Chairman:
S. Susman

G-1 Annie Pradel and Michel Ribes, Electrical Properties o Lithium Conductive Sulfur Glasses Prepared by Twin Rolle Quenching

G-2 M. Devaud, J.-Y. Prieur and W.D. Wallace, Pseudospin Echoe in a Family of Ionic Conducting Lithium Borate Glasses

G-3 Gaetano Chiodella, Aldo Magistris and Marco Villa, Ioni Conductivity and Glass Transition of Borophosphate Glasses

G-4 K.L. Ngai and H. Jain, Conductivity Relaxation and Spin Lat tice Relaxation in Lithium and Mixed Alkali Borate Glasses Activation Enthalpies, Anomalous Isotope-Mass Effect an Mixed Alkali Effect

G-5 John H. Kennedy, Saeed Sahami, Steven W. Shea and Z. Zhang Preparation and Conductivity Measurements of SiS_2-Li_2 Glasses Doped with LiBr and LiCl

G-6 R. Mercier, M. Tachez, J.P. Malugani and A.J. Dianoux, Quasi elastic Neutron Scattering from $AgPO_3$-AgI Glass

G-7 S. Rokade, K. Singh and V.H. Deshpande, Effect of Addition c $LiNbO_3$ on the Electrical Conductivity of Li_2O-B_2O_3 System

nday AM

SESSION 1-D
ALKALI CONDUCTORS

Chairman:
J.B. Wagner Jr

:-1 Roger Frech and Enzo Cazzanelli, Sulfate Ion Configuration in Monoclinic and Cubic Lithium Sulfate

:-2 A.L. Laskar, and P.A. Cardegna, Size Effect of the Alkali Ions on the Diffusion Rates in Silver Halides

:-3 F. d'Yvoire, M. Pintard-Screpel and E. Bretey, Polymorphism and Cation Transport Properties in 3D Skeleton Arsenates $Na_3M_2(AsO_4)_3$ (M = Al, Ga, Cr, Fe)

:-4 S. Yoshikado, T. Ohachi, I. Taniguchi, Y. Onoda, M. Watanabe and Y. Fujiki, Ionic Conduction in (K,Rb)-Al-Priderites with Hollandite Structure

:-5 F. Beech, C.R.A. Catlow, A.V. Chadwick and G. McIntyre, A Single Crystal Neutron Diffraction Study of The Superionic $KCaF_3$

:-6 Arnold Lunden and Hakan Ljungmark, Electrical Conductivity, Self-Diffusion and Phase Diagram of Lithium Sulfate - Lithium Chloride

:-7 Yu Wen-hai and Yang Yuan, Effect of Phase Separation and Crystallization of the Conductivity of a-FIC

nday PM

SESSION 2-A
BETA ALUMINA

Chairman:
S. Chandra

A-1 K.G. Frase, R.S. Roth and A. Santoro, Neutron Diffraction of 'B' and B''-Alumina Phases of the Same Composition

A-2 R. Wong, W.L. Roth and B. Dunn, EXAFS Studies of ND in Beta$''$-Alumina Single Crystal

A-3 G. Lucazeau, J.R. Gavarri and A.J. Dianoux, Study of Na^+ Motions in Beta Al_2O_3 by Quasi Elastic Neutron Scattering Measurements

A-4 S. Chen, D.R. White, M. Sankararaman, H. Sato, J.B. Lewis, and W.R. Robinson, Conductivity and Structural Analysis of Co^{2+} Stabilized Beta$''$-Alumina

A-5 John O. Thomas, Anders Eriksson, Jorgen Kjems and Amanda Petford, A Combined HRXD and HREM Study of Degradation Collapse in NH_4^+/H_3O^+ Beta$''$-Alumina

A-6 G. Mariotto, Raman Spectra of Cadmium Containing Beta-Alumina Crystals

A-7 Peter K. Davies, Amanda Petford and Michael O'Keeffe, Investigations of Cation Order in Nd-, Gd- and Eu Beta$''$ Alumina Using High Resolution TEM

A-8 G. Staikov, P.D. Yankulov and E. Budevski, Nonstandard Behavior of Polycrystalline Beta/Beta$''$-Alumina Membranes in Sodium Environment

nday PM

SESSION 2-B
OXIDE CONDUCTORS

Chairman:
A.J. Burggraaf

1 Wen Tinglian, Li Xiafei, Kuo Zhuokun and W. Weppner, Conductivity of MgO-Doped ZrO_2

2 Kichiro Koto, Haruki Mori and Yoshiaki Ito, Oxygen Disorder in the Fluorite-Type Conductors $(Bi_2O_3)_{1-x}(Gd_2O_3)_x$ by X-ray and EXAFS Analyses

3 I. Riess, M. Ricken and J. Noelting, Specific Heat of Non-Stoichiometric CeO_2

4 S. Suzuki, H. Iwahara and M. Tanaka, Incommensurate Structures in the f.c.c. Phase of Stabilized Bi_2O_3

5 P.D. Battle, C.R.A. Catlow and L.M. Moroney, A Structural Study of the Mixed Oxide Conductor M_2O_3-Doped Bi_2O_3

5 C. Houttemane, J.C. Boivin, D. Thomas, A. Tairi, J.C. Champarnaud-Mesjard, D. Mercurio and B. Frit, Phases Stability and Conduction Properties in the Bi_2O_3-PbO-PbF_2 System

' Meng Guang-yao, Cao Wun-qing and Peng Ding-kun, Chemical Synthesis and Conductivity Study of Doped Mullite Solid Solutions

1 S. Dou, P.D. Pacey, C.R. Masson and B. Marple, Grain Growth in Lime-Stabilized Zirconia in the Presence of a Liquid Phase

Monday PM

SESSION 2-C
ELECTRODE MATERIALS

Chairman:
M. Greenblatt

EM-1 C. Greaves, A.M. Speed and M.A. Thomas, Structure of the Mixed Conductor Ni_2O_3H by Powder Neutron Diffraction

EM-2 J.M. Tarascon, Electrochemical Insertion of Lithium and Sodium into the Two Crystallographic Forms of a New Molybdenum Chalcogenide Phase $Mo_{15}Se_{19}$

EM-3 L.A. De Picciotto and M.M. Thackeray, Lithium Insertion/Extraction Reactions with $LiVO_2$ and LiV_2O_4

EM-4 M.T. Weller and P.G. Dickens, Lithium Insertion Reactions in Uranium Oxide Phases

EM-5 Boye Knutz and Steen Skaarup, Discharge of Solid State Li_3N+TiS_2 Composite Electrodes

EM-6 Ned A. Godshall, Lithium Transport Kinetics in Ternary Lithium-Copper-Oxygen Cathode Materials

EM-7 P.G. Bruce, M.G.S.R. Thomas and J.B. Goodenough, Lithium Insertion into $Li_{x-1}CoO_2$

EM-8 D.W. Murphy, R.J. Cava, K. Rhyne, R.S. Roth, S.M. Zahurak and J.L. Dye, Structural Aspects of Alkali Metal Insertion Compounds with the Pyrochlore Structure

Monday PM

SESSION 2-D
EXPERIMENTAL TECHNIQUES

Chairman:
B.A. Boukamp

ET-1 Werner Weppner, Electrochemical Characterization and Preparation of Semiconducting Materials

ET-2 Y. Onoda, Y. Fujiki, S. Yoshikado, T. Ohachi and I. Taniguchi, NMR Study of One-Dimensional Ionic Conductor with Hollandite-Type Structure IV. Rb-Priderite

ET-3 A. Fontana, G. Mariotto, E. Cazzanelli, F. Rocca, V. Mazzacurati, G. Ruocco and G. Signorelli, Disorder Induced Scattering in Beta-AgI

ET-4 Noboru Matsui, Equivalent Circuit Analysis of High Temperature Solid Electrolyte

ET-5 H. Kahil, E.J.L. Schouler, M. Forestier and J. Guitton, Characterization of the Solid Composite Electrode MnO_2-gamma, Acetylen Black; HUP/HUP by Impedance Spectroscopy

ET-6 S. Linderoth, H.E. Hansen, A. Shishkin, S. Skaarup, N.H. Andersen, M.D. Bentzon and K. Petersen, Some Superionics Studies by Positrons

ET-7 Monisha Bose and Anjali Basu, NMR Studies of the Mixed Conductor $Li_xV_2O_5$

ET-8 Kuo-chih Chou and Shuang-lin Chen, Electrochemical Determination of the Thermodynamic Property of Intermediate Compound in Mo-O System

Tuesday AM

SESSION 3-A
THEORY

Chairman:
D. Franceschetti

TH-8 R.O. Rosenberg, A. Nitzan and M.A. Ratner, Effective Potentials from Langevin Dynamics Simulations of Framework Solid Electrolytes

TH-9 Bernard A. Boukamp, A Package for Impedance/Admittance Data Analysis

TH-10 L. Borjesson, S.W. Martin, L. Torell and C.A. Angell, Sequential Hypersonic Dampings Due to Fast Ion Diffusion and Viscous Relaxation in AgI-Rich Ionic Liquids

TH-11 A. Bunde, W. Dieterich, and E. Roman, Monte Carlo Studies of Ionic Conductors Containing an Insulating Second Phase

TH-12 C.R.A. Catlow and M.L. Wolf, Molecular Dynamics Simulation Studies of Li^+ Ion Conductors

TH-13 J.H. Newton-Howes and A.N. Cormack, Computer Simulation of Na in Hexagonal WO_3

TH-14 Caroline S. Harris, A. Nitzan, Mark A. Ratner and D.F. Shriver, Particle Motion Through a Dynamically Disordered Medium: The Effects of Correlation and Application to Polymer Solid Electrolytes

Tuesday AM

SESSION 3-B
ALKALI CONDUCTORS

Chairman:
W. Rickert

AC-8 Q.G. Liu and W.L. Worrell, Electrical and Thermodynamic Properties of Li_2SO_4-Ag_2SO_4 Solid Electrolytes

AC-9 B. Schoch, E. Hartmann and W. Weppner, New Fast Solid Lithium Ion Conductors at Low and Intermediate Temperatures

AC-10 S. Suzuki, M. Tanaka, M. Ishigame, T. Suemoto, Y. Shibata, Y. Onoda and Y. Fujiki, Interchannel Correlation of Mobile Ions in Hollandites

AC-11 M. Gregorkiewitz, Alkali Ion Diffusion in $M'(AlSiO_4)$ Compounds with Frameworks of the Tridymite Topology and its Variants

AC-12 M. Bose, A. Basu and D. Torgenson, Dynamics of the Lisicon from ^7Li NMR

AC-13 K. Shahi and G.P.S Gopalan, Some Na_2SO_4-Based Fast Ion Conductors

AC-14 Lin Zu-xiang, Yu Hui-jun, Li Shi-chun and Tian Shun-bao, Phase Relationship and Electrical Conductivity of $Li_{1+x}Ti_{2-x}Ga_xP_3O_{12}$ and $Li_{1+2x}Ti_{2-x}Mg_xP_3O_{12}$ Systems

Tuesday AM

SESSION 3-C
NASICON

Chairman:
W.L. Roth

NA-1 W.H. Baur, J.R. Dygas, D.B. Whitmore and J. Faber, Time-of-Flight Neutron Powder Diffraction Study of $Na_2Zr_2SiP_2O_{12}$ and $Na_3Zr_2Si_2PO_{12}$

NA-2 J.J. Didisheim, E. Prince and B.J. Wuensch, Neutron Rietveld Analysis of Structural Changes in Nasicon Solid Solutions $Na_{1+x}Zr_2Si_xP_{3-x}O_{12}$ at Elevated Temperatures

NA-3 G. Lucazeau, M. Barj, C. Delmas and A.J. Dianoux, Quasi-Elastic and Inelastic Neutron Scattering Study of $Na_3Cr_2(PO_4)_3$, $NaZr_2(PO_4)_3$, $Na_4MgZr(PO_4)_3$

NA-4 Masayuki Nagai and Tasashi Nishino, Na-K Exchange of the Nasicon-Type Structural Compounds

NA-5 Joachim Maier and Udo Warhus, Thermodynamic and Electrochemical Investigations of the Nasicon Solid Solution System

NA-6 J.P. Boilot, Ph. Colomban and G. Collin, Nasicon: Amorphous to Crystalline Compounds

NA-7 J.R. Dygas and M.E. Brodwin, Frequency-Dependent Conductivity of Nasicon Solid Electrolytes in the Microwave Range

Tuesday AM

SESSION 3-D
GLASSES

Chairman:
B. Scrosati

G-8 Marco Villa and Gaetano Chiodelli, P_2O_5 Based Vitreous Electrolytes: Identification of the Structural Units by ^{31}P NMR-MAS

G-9 Michel W. Barsoum and Harry L. Tuller, In-Situ Determination of the Kinetics of Reaction Between Lithium and Fast Ion Conducting Lithium Borate Glasses

G-10 P.M. Schleitzweiler and W.B. Johnson, Divalent Conduction in PbI_2-PbO-B_2O_3 Glasses

G-11 P. Bean and M. Tomozawa, Thermoelectric Power Measurements of Silver-Containing Glasses

G-12 A. Pechenik, D.W. Whitmore, M.A. Ratner and S. Susman, Ionic Conductivity in Glasses: A Monte Carlo Study of Ordered and Disordered One-Dimensional Models

G-13 James A. Bruce, Malcolm D. Ingram, and Margaret A. MacKenzie, Ionic Conduction in Glasses: a New Look at the Weak Electrolyte Theory

G-14 K.A. Murugesamoorthi and S. Radhakrishna, Studies on AgI-$Ag_4P_2O_7$ Superionic Conducting Glass System

Wednesday AM

SESSION 4-A
THEORY

Chairman:
R.J. Friauf

TH-15 F. Dalard, D. Deroo and D. Pedone, Theoretical Study of the Influence of Ion-Ion Interaction on Intercalation Kinetics

TH-16 A. Bunde, H. Harder and W. Dieterich, On Diffusion Hindered by Sticks, Site Percolation, and the Mixed Alkali Effect

TH-17 Y. Boughaleb and M.A. Ratner, Strong Correlation Effects on Ionic Motion in Framework Solid Electrolytes: Computer Simulation of Interacting Particles in Periodic Potentials

TH-18 I. Ebbsjoe, P. Vashishta, R.K. Kalia and S.W. de Leeuw, Fractal Dimensions of Ionic Trails and Isosets in Superionic Conductors

TH-19 G. Roth and H. Boehm, Network Analogue for One-Dimensional Solid Ionic Conductors

TH-20 H. Sato, K. Wada and A. Suzuki, Percolation Efficiency and Mixed Alkali Effect

TH-21 K. Funke and I. Riess, Debye-Hueckel-Type Relaxation Processes in Solid Ionic Conductors: The Model

Wednesday AM

SESSION 4-B
PROTON CONDUCTORS

Chairman:
C. Dyer

PC-1 Wing-Kit Lee, A.S. Nowick and L.A. Boatner, Protonic Conduction in Acceptor-Doped $KTaO_3$ Crystals

PC-2 E. Montoneri, E. Findl, F. Kulesa and F.J. Salzano, High Temperature Proton Conductors Note I: Boron and Aluminum Phosphates

PC-3 H. Iwahara, T. Esaka, H. Uchida, T. Yamauchi and K. Ogaki, High Temperature Type Protonic Conductor Based on SrCeO and Its Application to the Extraction of Hydrogen Gas

PC-4 S.K. Tolpadi, S. Chandra and S.A. Hashmi, Proton Transport in Ammonium Paratungstate $(NH_4)_{10}W_{12}O_{41}\cdot 5H_2O$

PC-5 C.M. Mari, F. Bonino, M. Catti, R. Pasinetti, S. Pizzini, Electrical Conductivity of $HTaWO_6\cdot H_2O$ and $HTaWO_6$

PC-6 Scott H. Brown and Roger Frech, Spectroscopic Studies of the Fast Proton Conductor Lithium Hydrazinium Sulfate

PC-7 B.K. Sen and S. Sen, Mechanism of Proton Transport in HUP $(HUO_2PO_4\cdot 4H_2O)$

Wednesday AM

SESSION 4-C
POLYMERS

Chairman:
R.G. Linford

P-8 A. Bouridah, F. Dalard, D. Deroo, and M. Armand, Potentiometric Measurements of Ionic Mobilities in PEO-LiX Complexes

P-9 L.L. Yang, R. Hug, G.C. Farrington, G. Chiodelli and A.R. McGhie, Preparation and Properties of PEO Complexes of Divalent Cation Salts

P-10 W. Gorecki, R. Andreani, C. Berthier, M. Armand, M. Mali, J. Roos and D. Brinkmann, NMR, DSC, and Conductivity Study of a Poly(Ethylene Oxide) Complex Electrolyte: $PEO(LiClO_4)_x$

P-11 C.K. Chiang, G.T. Davis, C.A. Harding and T. Takahashi, Polymeric Electrolytes Based on Poly(Ethylene Imine) and Lithium Salts

P-12 Sankar Bhattacharja, S.W. Smoot and D.H. Whitmore, A Pulsed Field Gradient NMR Study of Cation and Anion Diffusion in the Amorphous Phase of the Polymer Electrolyte $(PEO)_8LiCF_3SO_3$

P-13 Teresa Abrantes, Luis Alcacer and Cesar Sequeira, Thin Film Solid State Polymer Electrolytes Containing Silver and Copper Ions as Charge Carriers

P-14 Toru Takahashi, G.T. Davis, C.K. Chiang and C.A. Harding, Chemical Modification of Poly(Ethylene Imine) for Polymeric Electrolyte

nesday AM

SESSION 4-D
INTERFACIAL EFFECTS

Chairman:
T. Cole

S.P.S. Badwal, F.T. Ciacchi and D.K. Sood, Interface between Cosintered $(U,M)O_{2+x}$ Electrodes and Yttria Zirconia Electrolyte

! J.A. Kilner, A.E. McHale, B.C.H. Steele, M. van Hemert and A.J. Burggraaf, Oxygen Surface Exchange and Diffusion in Fast Ionic Conductors

Bang C. Nguyen and David M. Mason, Electrocatalytic Mechanisms in the Oxidation of CO on a Scandia Stabilized Zirconia Electrolyte Surface

D. Gozzi, L. Petrucci and M. Tomellini, Cyclic Voltammetry at Metal-Zirconia Electrolyte Interface

J.B. Bates and J.C. Wang, Impedance of Metal-Solid Electrolyte Interfaces

F. Bonino and B. Scrosati, The Lithium-Polymer Electrolyte Interface

S.P.S. Badwal and F.T. Ciacchi, Microstructure of Pt Electrodes and its Influence on the Oxygen Transfer Kinetics

inesday PM

SESSION 5-A
BATTERIES

Chairman:
J.J. Smith

A.J. Patrick, M.D. Glasse, R.J. Latham and R.G. Linford, Novel Solid State Polymeric Batteries

2 O. Yamamoto, Y. Takeda, R. Kanno and Y. Ikeda, Rechargeable Solid Electrolyte Cells with a Copper Ion Conductor, $Rb_4Cu_{16}I_7Cl_{13}$

1 J.R. Owen, R.D. Rudkin and B.C.H. Steele, Thin Film Arrays of Lithium - PEO Cells

H.S. Maiti and N.C. Chaklanabish, Complex Impedance Behavior of the Cell $Li/LiClO_4(PC)/V_6O_{13}$

5 J.B. Phipps, T.G. Hayes, P.M. Skarstad and D.F. Untereker, In-Situ Formation of a Solid/Liquid Composite Electrolyte in Li/I_2 Batteries

6 J.I. Franco, L. Perissinotti and N.W. Walsoee de Reca, Conductivity of the Binary System Iodine-Phenazine

7 J.R. Akridge and H. Vourlis, Solid State Batteries.

8 R.J. Neat, M.D. Glasse, R.G. Linford and A. Hooper, Thermal History and Polymer Electrolyte Structure: Implications for Solid State Battery Design

9 H. Tributsch and G. Betz, The Photo-Intercalation Battery: Progress and Difficulties POSTER ONLY

inesday PM

SESSION 5-B
OXIDE CONDUCTORS

Chairman:
D.S. Tannhauser

Li Wei Zhang, M. Kobayashi and K.S. Goto, Micromechanism of Formation of Amorphous Thin Films of $Li_2O-B_2O_3$, Li_2O-SiO_2 and $Li_2O-P_2O_5$ by PVD

0 F. Beech, C.R.A. Catlow, A. Santoro and B.C.H. Steele, Structural and Electrical Studies on the Defect Pyrochlore Materials $Pb_{1.5}M_2O_{6.5}$ (M = Ta, Nb)

1 V.B. Tare, G.M. Mehrotra and J.B. Wagner, Jr., Electrical Transport in $NiO-CeO_2$ Mixtures

2 F. Croce, The Effect of the Humidity on the Electrical-Conductivity of "As Received" Commerical ZrO_2/Y_2O_3-Doped Solid Electrolyte

3 T. Graia, P. Conflant, J.C. Boivin and D. Thomas, High Oyxgen Ion Conduction of a Bismuth Oxide- Cadmium Oxide Phase: Conductivity and Transport Number Measurements; Structural Investigations

4 Meng Guang-yao, Zhou Ming and Peng Ding-kun, A New Phenomenon - The Inductive Impedance in Bi_2O_3 Based Oxygen Ionic Conductors

5 Shixue Dou, C.R. Masson and P.D. Pacey, Chemical Diffuison in Calcia-Doped Zirconia Ceramic

Wednesday PM

SESSION 5-C
ELECTRODE MATERIALS

Chairman:
B.E. Lieber

EM-9 J.M. Tarascon, Topotactic Redox Reactions of One-Dimensio Ternary Molybdenum Chalcogenides Mo_6X_6 (X = Se, Te)

EM-10 A.J. Burggraaf, M.P. van Dijk and K.J. de Vries, Electric Electrochemical Properties of Some Oxygen Catalytica Active Electrode Materials

EM-11 E.J.L. Schouler, J. Oumari and A. Hammou, Doped Cathodes Zirconia Based Water Vapor Electrolyzers

EM-12 D.A. Zehnder, B. Dunn and R.F. Bunshah, Transport Propert of Thin Film TiS_2

EM-13 Keiichi Kanehori, Yukio Ito, Fumiyoshi Kirino, Kats Miyauchi and Tatsuichi Kudo, Titanium Disulfide Films Fab cated by Plasma CVD

EM-14 J.O. Besenhard, P. Komenda, A. Paxinos and M. Josowi Binary and Ternary Li-Alloys as Anode Materials in Rechar able Organic Electrolyte Li-Batteries

EM-15 Boryann Liaw, Ian D. Raistrick and R.A. Huggins, Lith Thermodynamics and Kinetics of the Gamma Lithium Vanad Bronze Structure

Wednesday PM

SESSION 5-D
BETA ALUMINA

Chairman:
H. Sato

BA-9 G. Mariotto, M. Montagna and F. Rossi, Luminescence of Cr in Beta-Alumina Crystals

BA-10 John O. Thomas, Garry J. McIntyre and John DeNuzzio, Alternative Fabrication Route To H_3O^+ Beta"-Alumina NH_4^+/H_3O^+ Beta"-Alumina

BA-11 Wilder Carrillo-Cabrera, John O. Thomas and Gregory Farrington, The $Eu^{3+} \rightarrow Eu^{2+}$ Reduction Process in Eu^{3+} Beta Alumina

BA-12 J. Garbarczyk, W. Jakubowski and M. Wasiucionek, On Intera tions Between H_2O Molecules and Mobile M^+ Ions/M^+ = Li^+, Na Ag^+, K^+, Rb^+, Tl^+/of Beta Aluminas

BA-13 M.W. Breiter, M. Maly-Schreiber and B. Dunn, Conductivi Change During the Replacement of Sodium by Silver Ions Polycrystalline Beta" Alumina

BA-14 G. Collin, J.P. Boilot, Ph. Colomban and R. Comes, Beta Beta" Alumina - Structure, Local Order and Conductivities

BA-15 J. Tegenfeldt, J.D. DeNuzzio, and G.C. Farrington, Prepar tion and Properties of Pb Beta" Alumina

BA-16 Maria Zaharescu, Victor Stancovschi, Constanta Parlo Nicholae Dragan, Ana Braileanu, Dorel Crisan and, Tuc Surdeanu, Stabilizers for Beta"-Alumina

Thursday AM

SESSION 6-A
THEORY

Chairman:
M.A. Ratner

TH-22 Tadao Ishii, Effects of Self-Vibrations for Hopping Condu tion

TH-23 G.E. Murch, A.D. Murray and C.R.A. Catlow, A New Hybr Scheme of Computer Simulation Based on Hades and Monte Carl Application to Ionic Conductivity in Y^{3+} Doped CeO_2

TH-24 Bruce K. Borey and Frederick H. Horne, Effects of Spa Charge and Nonuniform Temperature on a Solid State Galvan Cell

TH-25 P.W.M. Jacobs and D.A. MacDonaill, Computer Simulation Stu of delta-Bismuth Oxide

TH-26 Peter Nwoye O. Mbaeyi, Model of Diffusion Lengths

TH-27 P. Vashishta, T. Ebbsjoe and R. Dejus, X-Ray and Neutr Scattering from Ionic Motions in Superionic Conductors

TH-28 K. Takahashi, I. Mannari and T. Ishii, FK-Model Approach to Coupled Chain System: 3rd-Order Commensurate Ion Conductors

rsday AM

SESSION 6-B
ALKALI CONDUCTORS

Chairman:
A. Lunden

15 William A. Redman and Roger Frech, Structural and Conductivity Studies in a Sodium-Zinc-Sulfate System

16 H. Boehm and G. Roth, Ionic Conductivity of Sodium-Nepheline Single Crystals

17 J.L. Bjorkstam, D. Brinkmann, M. Mali, J. Roos, J.B. Phipps, and P.M. Skarstad, NMR Studies in Single Crystal and Dispersed Phase Lithium Iodide

18 M.A. Subramanian, R. Subramanian and A. Clearfield, Lithium Ion and Proton Conductors in the System $AB(IV)_2(PO_4)_3$ (B = Ti, Zr, Hf)

19 E.I. Cooper and C.A. Angell, Plastic Crystal Fast Li^+ Ion Conductors (PLICFICS) for 25-100°C Applications

20 J. Grins, Ionic Conductivity in Compounds Based on Chemical Substitutions in Na_2ZnSiO_4

21 L. Boerjesson and L.M. Torell, Raman Spectra of Solid Sulphate Electrolytes; Paddle Wheel Migration Due to Reorientation Motion

irsday AM

SESSION 6-C
GLASSES

Chairman:
J.H. Kennedy

15 G. Carini, M. Cutroni, M. Federico and G. Tripodo, Sound Velocity Behavior in Silver Borate Glasses

16 Steve W. Martin, M. Mali, J. Roos and D. Brinkmann, ^{109}Ag NMR Investigations of the Superionic Glasses

17 Alberto Schiraldi, Elisabetta Pezzati and Primo Baldini, Transport and Thermodynamic Properties of AgI-Ag Oxysalt(s) Glasses

18 L. Boerjesson and L.M. Torell, Brillouin Scattering in Alpha-AgI and AgI Rich Glasses

19 A. Avogadro, S. Aldrovandi and F. Borsa, Heat Capacity of Glassy Ionic Conductors $(AgI)_x(Ag_2O \cdot 2B_2O_3)_{1-x}$ Between 1.5 and 40 K

20 Hemlata Senapati, Studies on Mixed-Anion $AgI-Ag_2MoO_4-Ag_2SeO_4$ Glass-Forming Fast Ionc Conductors

21 K.A. Murugesamoorthi, K. Hariharan and S. Radhakrishna, Superionic Conducting Glass: Glass Formation and Conductivity in the $(AgI)_x-(Ag_3AsO_4)_{5-x}$ System

irsday AM

SESSION 6-D
ELECTROLYTES, GENERAL

Chairman:
W. Sitte

-1 S. Chandra, B. Singh and N. Singh, Simultaneous Proton and Oxygen Ion Transport in Solid Molybdic Acid Due to Possible Electrolysis of Interlayer Water of Crystallization

-2 A.C. Khandkar and J.B. Wagner, Jr., Rapid Ion Transport in Composite Electrolytes

-3 D.P. Almond and A.R. West, Entropy Effects in Ionic Conductivity

-4 Gerhard Deublein and Robert A. Huggins, Stability of Alkali Ion-Conducting Solid and Liquid Electrolytes; Thermodynamic Aspects

-5 W.L. Roth, R. Wong, A.I. Goldman, E. Canova, Y.H. Kao, and B. Dunn, Structure of Additives in Beta-Alumina and Zirconia Superionic Conductors

-6 Fernando Garzon, Thomas Feist and Peter K. Davies, Effects of Thermal History Upon the Behavior of Crystalline Fast Ionic Conductors

-7 James A. Bruce and Malcolm D. Ingram, The Mixed Alkali Effect in Crystalline Solid Electrolytes

Thursday PM

SESSION 7-A
BETA ALUMINA

Chairman:
M.W. Breiter

BA-17 M.F. Bell, M. Sayer, P.S. Nicholson and M.Z.A. Munshi, Wate Vapor Electrolysis Using Hydronium Beta" Alumina. Io Exchange and Cell Performance

BA-18 J.D. Barrie, B. Dunn, O.M. Stafsudd and G.C. Farrington, Pre paration and Properties of Transition Metal Beta" Aluminas

BA-19 J.B. Bates and R.L. Anderson, Corrosion of Na Beta- and N Beta"-Alumina in CO_2-H_2O

BA-20 S.W. Smoot, W.P. Halperin and D.H. Whitmore, Influence o Stoichiometry and the Nature of the Spinel-Block Stabilizin Element on Proton Transport Behavior in Solid Electrolyte with the Beta"-Alumina Structure

BA-21 Maggie Alden, John O. Thomas and Peter Davies, The Effect o Quenching on the Na^+ Ion Distribution in Na^+ Beta"-Alumina

BA-22 Patrick S. Nicholson, Masayuki Nagai, Zafar Munshi, Govin Singh, Kimihiro Yamashita, Michael Sayer and Michael Bell Fabrication, Characterisation and Steam Electrolysis Proper ties of Polycrystalline H_3O^+-Beta/Beta"-Aluminas

BA-23 Peter K. Davies, G. Pfeiffer and S. Canfield, Thermodynamic of Mixing in Beta Aluminas - Relation to the Mixed Alkal Effect

BA-24 S. Chen, N. Otsuka and H. Sato, Evidence of Mobile Io Correlation Between Conduction Planes in Beta-Alumina

Thursday PM

SESSION 7-B
ELECTRODE MATERIALS

Chairman:
P.M. Skarstad

EM-16 Kenneth D.M. Harris, Michael D. Rogers and Colin A. Vincent A Comparison Between 'Mixed Phase Electrode' and Percolatio Models for Composite Electrodes in Solid State Cells

EM-17 C.A.C. Sequeira, Cu Diffusion Coefficient in V_6O_{13}-Base Composite Electrodes Determined by a Galvanostatic Puls Relaxation Technique

EM-18 C.J. Chen and M. Greenblatt, Lithium Insertion into Iro Spinels

EM-19 R.J. Cava, A. Santoro, D.W. Murphy and R.S. Roth, The Crysta Structure of Lithium Inserted Metal Oxides: LiV_2O_5

EM-20 Torben O. Brun, Sherman Susman, Jens-Erik Jorgensen, Joh Faber, Jr. and Kenneth J. Volin, Disorder and Transport i Beta-Lithium/Aluminum

EM-21 E. Hatzikraniotis, J. Julien and M. Balkanski, Electrical an Optical Properties of Lithium Intercalated III - VI Com pounds.

EM-22 L.D. Yushina and V.I. Terekhov, Electrode Materials on th Base of Cuprous Chalcogenides.

EM-23 Wang Nanmeng, Oxygen Diffusivity in Mo-MoO_2 Reference Elec- trode of Oxygen Probe from Electrochemical Measurements.

Thursday PM

SESSION 7-C
EXPERIMENTAL TECHNIQUES

Chairman:
D.F. Shriver

ET-9 J. Shinar, D.S. Tannhauser, and B.L. Silver, ERS Study o Color Centers in Yttria Stabilized Zirconia

ET-10 S. Suzuki, M. Ishigame and M. Tanaka, Structural Studies o ZrO_2-Y_2O_3 System by Electron Diffraction and Electron Micro- scopy

ET-11 Paul Heitjans, Beta-NMR Studies of Ionic Motions in Layere and Glassy Compounds

ET-12 M. Ouwerkerk, N.H. Andersen, F.F. Veldkamp and J. Schoonman Neutron Diffraction and TSDC on $Ba_{1-x}U_xF_{2+2x}$ Solid Electro- lytes

ET-13 E. Lukacevic, A. Santoro and R.S. Roth, Neutron Powde Diffraction Study of the Structure of the Compoun $Li_{0.31}La_{0.56}MoO_4$

ET-14 G. Dalba, A. Fontana, P. Fornasini and F. Rocca, Structural Study of AgI:Ag_2O:B_2O_3 Glasses by EXAFS Spectroscopy

ET-15 Kuo Chu-kun and Li Xiang-ting, Investigation on Ion Transport in Solids Using Electron Microprobe

sday PM

SESSION 7-D
FLUORIDE CONDUCTORS

Chairman:
P. Bro

Yoshiaki Ito, Kichiro Koto, Shinzo Yoshikado and Tadashi Ohachi, Anion Disorder and its Resulting Ionic Conductivity of Beta-$Pb_{1-x}Bi_xF_{2+x}$ ($x \leq 0.30$) and Beta-$Pb_{1-x}Y_xF_{2+x}$ ($x \leq 0.20$) Single Crystals

C.R.A. Catlow, A.V. Chadwick, G.N. Greaves and L.M. Moroney, An EXAFS Study of ABF_4 Fluorite-Related Anion Conductors

K. Narasimha Reddy, Conductivity of Gd-Doped $NaYF_4$

Masahiro Yoshimura, Revised Subsolidus Phase Diagram of the system SrF_2-LaF_3 - POSTER ONLY

OTHER APPLICATIONS

S-K. Joo, I.D. Raistrick and R.A. Huggins, The Electrochemical Insertion of Lithium into Bleached Potassium Hexatungstate Thin Films: A New Electrochromic Material

! A.R. Lusis, E.V. Pentyush, V.V. Bats, J.A. Benders and G.E. Bajars, Solid Electrochromic System Based on Tungsten Oxide and Nickel Hydroxide

1 Xue Rong-jian and Chen Li-quan, Electrical Double Layer Capacitor by Using Beta"-Al_2O_3 Containing Fine Carbon Particles as Electrolytes

6 Wang Shu Yun, A New High Performance Potential Memory Device

day AM

SESSION 8-A
THEORY

Chairman:
R. Frech

29 J.C. Wang and J.B. Bates, Model for the Interfacial Impedance Between a Solid Electrolyte and a Metal Electrode

30 R. Kutner and H. van Beijeren, Tracer Diffusion in a One-Dimensional Lattice Gas in the Presence of a Drift Force

31 B. Sapoval, M. Rosso and J.F. Gouyet, Simulation of Fractals Objects Obtained by Intercalation in Layered Compounds

32 T. Gobron and J.F. Gouyet, Underdamped Systems and Lattice Gas Models

33 Kuo Chu-kun and Yan Yi-min, Simulation of the Intergranular Impendance of Sodium Ion Conductive Ceramics

34 R. Blender and W. Dieterich, Interface Resistance in a Hopping Model POSTER ONLY

35 Irina M. Curelaru and Eero Suominen, Localization versus Delocalization of Orbitals in the Quasi-One Dimensional Conductor $Na_{0.33}V_2O_5$ POSTER ONLY

day AM

SESSION 8-B
GLASSES

Chairman:
M.D. Ingram

22 H.G.K. Sundar and C.A. Angell, Fast Halide Ion Conducting Lead Metaphosphate Glasses - A Failed Divalent Cation Conductor

3 A. Pechenik, D.W. Whitmore, M.A. Ratner and S. Susman, Ionic Conductivity, Raman and IR Spectra of $LiAlSiO_4$ Glass

4 Changle Liu and C.A. Angell, All-Halide Superionic Glasses

5 G. Carini, M. Cutroni, M. Federico and G. Tripodo, Anelastic Relaxations in AgI-Doped Borophosphate Glasses

6 A. Kone and J.L. Souquet, Thermodynamic Approach to Ionic Conductivity Enhancement by Dissolving Halide Salts in Inorganic Glasses

9 Steve W. Martin, Relationship Between Alkali Ion Concentration and Apparent Glass Basicity: Conductivity Maximum in Glass.

8 Yu. G. Vlasov, E.A. Bychkov and B.L. Seleznev, Ionic Conductivity Oscillations in Silver-Arsenic-Selenium-Tellurium Chalcogenide Glasses

Friday AM

SESSION 8-C
OTHER CONDUCTORS

Chairman:
B.B. Owens

OC-1 Joachim Maier, On the Heterogeneous Doping of Io Conductors

OC-2 C.S. Sunandana, Synthesis of and Transport in LiF_3: O^{2-} Li_2SO_4

OC-3 Satoru Fujitsu, Kunihito Koumoto and Hiroaki Yanagida, Enh cement of Ionic Conductivity of $SrCl_2$ by Al_2O_3 Dispersion

OC-4 J.J. Didisheim, R.K. McMullan and B.J. Wuensch, Neut Diffraction Study of the Distribution and Thermal Motion Silver Ions in Alpha- and Beta-Ag_3Si

OC-5 Li Wei Zhang, M. Yahag and K.S. Goto, Vapor Species f Fused Li_2O-B_2O_3, Na_2O-SiO_2 and Na_2O-P_2O_5 systems for t film manufacturing by PVD

OC-6 Erik Krogh Anderson, Inger Grete Krogh Anderson and Eiv Skou, Proton Conduction in Ammonium Zeolites. Effects Deammoniation and Thermal Treatment

OC-7 Yu Wen-hai and Zheng Qing, Study on the Physical Propert of an Amorphous Ag FIC at Low Temperature

Friday AM

SESSION 8-D
SENSORS

Chairman:
M.S. Whitting

S-1 W. Sitte, I. Begsteiger and H.P. Fritzer, Investigation the Tellurium-Rich Part of the Ternary System Ag-Nb-Te Us a Solid Silver Electrolyte

S-2 H. Hoetzel and W. Weppner, Application of Fast Ionic Cond tors in Solid State Galvanic Cells for Gas Sensors

S-3 M. Goge, K. Heggestad and M. Gouet, Electrochemical Behav of Stabilized Zirconia Using Thick Films Technology

S-4 Tung Ting, Wei Shoukun, Zang Shengbi and Hu Mingfu, A St on the Effect of Silicon Upon the Activity Coefficient Niobium in Liquid Iron with the Solid Electrolyte Oxygen C Technique

S-5 Yu. G. Vlasov and E.A. Bychkov, Ion-Selective Electrochemi Sensors Based on Ion-Conducting Chalcogenide Glasses

Friday AM

SESSION 9-A
POLYMERS

Chairman:
L.C. De Jon

P-15 H. Cheradame, A. Gandini, J.F. Le Nest, Correlation Betw Structure and Transport Properties in Ion Containing Netwo

P-16 M.C. Wintersgill, J.J. Fontanella, J.P. Calame, M.K. Sai S.G. Greenbaum, and C.G. Andeen, Conductivity, DR, DSC, NMR Studies of Poly(Vinyl Acetate) Complexed with Alk Metal Salts

P-17 O. Inganas and T.A. Skotheim, Polymer Solid Electrol Photoelectrochemical Cells with n-Si Polypyrrole Photoel trodes

P-18 Masayoshi Watanabe, Satoshi Nagano, Kohei Sanui and Na Ogata, Ion Conduction Mechanism in Network Polymers f Poly(propylene Oxide) Containing lithium Perchlorate.

P-19 B. Scrosati and M. Lazzari, The Kinetics of the Elect chemical Doping Processes of Polyacetylene

day AM

SESSION 9-B
OTHER CONDUCTORS

Chairman:
J.B. Boyce

8 M. Lumbreras, J. Protas, S. Jebbari, G.J. Dirksen, and J. Schoonman, Structure and Ionic Conductivity of Mixed Lead Halides $PbCl_{2x}Br_{2(1-x)}$

9 R.J. Cava, N. Hessel Andersen, K. Clausen, E.A. Rietman, and J.K. Kjems, Diffuse Neutron Scattering Study of Antifluorite Type $Cu_{2-x}Se$

10 H. Huber, M. Mali, J. Roos and D. Brinkmann, Diffusion and Pressure Effects in the Superionic Conductor Ag_3SBr Studied by NMR

11 Manfred Betsch, Hans Rickert and Rainer Wagner, Investigations of the Forces of Inertia of the Mobile Ions in Solid Ionic Conductors - Measurements on $RbAg_4I_5$

12 Chen Li-quan, Zhao Zong-yuan and Dai Sou-yu, Bulk Interaction Between AgI and Alpha-Fe_2O_3 in their Composite Electrolyte

day AM

SESSION 9-C
ALKALI CONDUCTORS

Chairman:
R.A. Huggins

22 M. El-Gemal and R. Dupree, An NMR Study of $Li_2Ti_3O_7$

23 H. Hamdoune, D. Tran Qui and E.J.L. Schouler, Ionic Conductivity and Crystal Structure of $Li_{(1-x)}Ti_{(2-x)}In_xP_3O_{12}$

GLASSES

9 Steve W. Martin, Relationship Between Alkali Ion Concentration and Apparent Glass Basicity: Conductivity Maximum in Glass

0 M. Grayson Alexander and Brian Riley, Ion Conducting Glasses in the Na_2O-Y_2O_3-SiO_2 and Li_2O-Y_2O_3-SiO_2 Systems.

1 Steve W. Martin, Interrelation Between the Glass Transition and Ionic Conductivity

nesday, August 21

9:00-10:24	Contributed Session 4	
Auditorium	4-A	Theory (TH-15 - TH-21)
Blue Room	4-B	Proton Conductors (PC-1 - PC-7)
Red Room	4-C	Polymers (P-8 - P-14)
Green Room	4-D	Interfacial Effects (I-1 - I-7)
0:25-11:25	Refreshments, Posters for Session 4, A-D	
:25-12:25	Plenary Session D	
	D-1	B. Dunn
	D-2	I.D. Raistrick
2:30-1:15	Lunch at Truckee High School	
:20-3:00	Contributed Session 5	
Green Room	5-A	Batteries (B-1 - B-8)
Blue Room	5-B	Oxide Conductors (O-9 - O-16)
Red Room	5-C	Electrode Materials (EM-9 - EM-16)
Auditorium	5-D	Beta Alumina (BA-9 - BA-16)
:00-4:00	Refreshments, Posters for Session 5, A-D	
:00-5:00	Plenary Session E	
	E-1	P. Heitjans
	E-2	S. Liu

For Reference

Not to be taken from this room

Lawrence Berkeley Laboratory
University of California, Berkeley, CA 94720
An Equal Opportunity Employer
Pub. 482/8-85