

Edited by  
Prof. Joshua Jortner,  
Tel Aviv University,  
Institute of Chemistry,  
Ramat Aviv, Tel Aviv,  
Israel, and  
Prof. Neil R. Kestner,  
Department of  
Chemistry, Louisiana  
State University,  
Baton Rouge, La., USA

271 figures (including  
two colors plates)  
59 tables. XII, 493 pages  
1973. Cloth DM 107,50  
US \$44.10\*  
ISBN 3-540-06310-2

# Electrons in Fluids

## The Nature of Metal-Ammonia Solutions

### Contents

N. R. Kestner

#### Theory of Electrons in Polar Fluids.

J. J. Lagowski

#### Metal-Ammonia Solutions: The Dilute Region.

J. H. Roberts, J. J. La-  
gowski: The Effect of  
Electrolytes on the Hydro-  
gen-Bonded Structure  
of Liquid Ammonia.

C. Lambert: Magnetic  
Relaxation Properties of  
Dilute Solutions of Sodium  
in Liquid Ammonia.

J. Belloni, E. Saito:  
Chemical Equilibria  
between Anions and the  
Ammoniated Electron.

J. L. Dye

#### Metal Solutions in Amines and Ethers.

S. Nehari, K. Bar-Eli:  
Extinction Coefficients  
of Solutions of Alkali  
Metals in Amines.

P. M. Rentzepis

#### Ultrafast Optical Processes.

P. Delahay: Quasi-Free  
Electrons in Polar Liquids.  
E. Saito: Spectra of the  
Ammoniated Electron in

the Presence of Amide.  
B. L. Smith, W. H. Koehler:  
Raman Spectroscopy of  
Metal-Ammonia  
Solutions.

M. G. DeBacker, P. F.  
Rusch, B. DeBettignies,  
G. Lepoutre: Raman  
Spectra of Dilute Metal-  
Ammonia Solutions.  
P. F. Rusch, J. J. Lagowski:  
Metal-Ammonia Solu-  
tions VIII. Infrared  
Spectroscopy of the  
Solvent.

G. Lepoutre

#### Metal-Ammonia Solu- tions: Transition Range.

P. Damay: Thermodyna-  
mics and Critical Pheno-  
mena in Metal-Ammonia  
Solutions.

J. P. Lelieur, P. Damay,  
G. Lepoutre: Transport  
Properties of Lithium-  
Ammonia Solutions in the  
Intermediate Concentra-  
tion Range.

A. N. Garraway, R. M.  
Cotts: NMR Measure-  
ments of Self-Diffusion in  
Lithium-Ammonia and  
Sodium-Ammonia  
Solutions.

K. Ichikawa, J. C. Thomp-  
son: Cell e.m.f.'s in Met-  
al-Ammonia Solutions.

P. D. Schettler, C. L. van  
Antwerp, J. A. Hamilton,  
J. E. Thilly, J. D. Spear:  
Impedance Behavior of

Metal-Ammonia Solid  
Metal Interface.  
D. E. Bowen: Absorption  
of Ultrasound in Metal-  
Ammonia Solutions.

M. H. Cohen

#### The Electronic Structures of Disordered Materials.

J. C. Thompson: **Concen-  
trated M-NH<sub>3</sub> Solutions:**  
A Review.

J. P. Lelieur: Nuclear  
Magnetic Resonance  
Studies of Cesium-  
Ammonia Solutions.

K. G. Breitschwerdt,  
H. Radscheit: Conduct-  
ivity of Concentrated  
Metal-Ammonia Solu-  
tions in the Frequency  
Range 0-70 GHz.

T. David, W. Glaunsinger,  
S. Zolotov, M. J. Sienko

#### Strange Magnetic Behavior and Phase Relations of Metal- Ammonia Compounds.

J. V. Acrivos, S. F. Meyer,  
T. H. Geballe: On Super-  
conducting Metal-  
Ammonia Complexes.

F. Hensel

#### Metallic Vapors.

U. Even, J. Jortner: Metal-  
Nonmetal Transition in  
Expanded Liquid Mercury.  
A. Gedanken, B. Raz,  
U. Even, J. Jortner:

Metal-Nonmetal Transi-  
tion and Exciton  
Screening.

H. T. Davis, L. D. Schmidt,  
R. G. Brown

#### Mobility Studies of Excess Electrons in Nonpolar Hydrocarbons.

B. Raz, J. Jortner: Excit-  
ons in Liquids and the  
Energy of the Quasi-Free  
Electron State.

I. Webman, J. Jortner:  
Electron Localization  
in Dense He Gas.

A. Gaathon, J. Jortner:  
Excess Electron States  
in Dense Polar Vapors.

#### L. M. Dorfman, F. Y. Jou Optical Absorption Spec- trum of the Solvated Electron in Ethers and in Binary Liquid Systems.

J. Belloni, E. Saito: Radio-  
lytic and Photolytic  
Formation of Stable  $e_{am}^-$   
in Amide Solutions.

R. R. Dewald, R. L. Jones,  
H. Boll: Kinetic Studies  
of Reactions Involving  
the Ammoniated Electron.

N. R. Kestner, J. Logan:  
Comments on Electron  
Transfer Reactions.  
U. Schindewolf: "Spin Off"  
of Solvated Electron  
Research.

Subject Index.  
Color Plates.

\* Prices are subject to  
change without notice



Springer-Verlag  
Berlin Heidelberg New York

München Johannesburg London Madrid New Delhi Paris Rio de Janeiro  
Sydney Tokyo Utrecht Wien

Communications in  
**Mathematical  
Physics**

Volume 36 Number 4 1974

Contents

- C. J. Thompson Ising Model in the High Density Limit 255  
H. Roos Strict Convexity of the Pressure: A Note on a  
Paper of R. B. Griffiths and D. Ruelle 263
- M. Cassandro, Rigorous Properties of a Continuous System in  
A. Da Fano the High Activity Region 277
- D. Buchholz Product States for Local Algebras 287  
P. Hájíček Three Remarks on Axisymmetric Stationary  
Horizons 305
- M. Miyamoto Martin-Dynkin Boundaries of Random Fields  
321
- A. Joseph Minimal Realizations and Spectrum Generating  
Algebras 325

Indexed in Current Contents

Responsible for advertisements

Springer-Verlag  
Printers  
Printed in Germany

L. Siegel, D-1000 Berlin 15, Kurfürstendamm 237  
Telephone: (0 30) 8 82 10 31, Telex 01-85 411  
Berlin Heidelberg New York  
Brühlsche Universitätsdruckerei, Gießen  
© by Springer-Verlag Berlin Heidelberg 1974