

International Symposium on
NONLINEAR TRANSPORT AND RELATED PHENOMENA IN
INORGANIC QUASI ONE DIMENSIONAL CONDUCTORS

Hokkaido University, Sapporo, Japan

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Preface

The International Symposium on "Nonlinear Transport and Related Phenomena in Inorganic Quasi One Dimensional Conductors" was held on 20-22 October 1983 at Hokkaido University under the sponsorship of the Ministry of Education, Science and Culture. The number of participants was 59, of which 8 were from abroad; United Kingdom, France and USA. The program of the symposium consisted of 11 invited papers, and 16 contributing papers including 2 post deadline papers.

A remarkable progress has made in physics and chemistry of both inorganic and organic low dimensional conductors, and growing populations are now devoted to the research on metallic organic compounds. Nevertheless, charge density wave (CDW) sliding, one of the novel aspects of solid state physics, has been stemmed from transition metal trichalcogenides (MX_3) and many other inorganic materials are being found to exhibit the peculiar transport properties such as the nonlinear conductivity associated with periodic current oscillations, which are attributed to the sliding of CDW as in MX_3 . It was one of the motivations to have this symposium, to deepen the understanding of these novel, but still controversial phenomena. Particular emphasis was paid to the following subjects:

- (1) Theories on CDW nonlinear dynamics in quasi one-dimensional (1D) conductor
- (2) Experiments on nonlinear transport and related properties in MX_3 , MX_5 , $(\text{MX}_4)_n\text{I}$, and blue bronzes
- (3) Localization and superconductivity in 1D conductors.

This proceedings contain all the papers presented in the symposium. (The paper by Gr \ddot{u} ner, prepared for the symposium but not presented, is also included.) Our policy is not to limit the length of an individual paper. We believe that these papers are of help to understand the present status of this field.

The Organizing Committee would like to acknowledge Professor John Bardeen who, as the honorary committee chairman, had sent most valuable advices and gave a comprehensive paper. Throughout the symposium he was quite eager to listen every paper and made efforts to encourage young scientists.

Finally we would like to emphasize the smooth steering of the symposium by Mrs. R. Shimizu.

Organizing Committee

Y. Abe, M. Ido, K. Imai, T. Haga,
J. Nakahara, T. Sambongi, H. Takayama,
S. Tanaka, and K. Yamaya

CONTENTS

THEORIES ON CDW NONLINEAR DYNAMICS

Transport by Charge-Density Waves in Linear-Chain Conductors	J. Bardeen 1
Charge Density Waves in ac + dc Electric Fields	P. Bak 13
Phase Vortices in Charge Density Wave Condensate	K. Maki 17
Numerical Study on One-Dimensional Incommensurate Charge-Density- Waves in the Weak Pinning Regime	H. Takayama and H. Matsukawa 24
Commensurability Energy in a One Dimensional Quarter-Filled Electron-Phonon System	Y. Ohfuti and Y. Ono 32

EXPERIMENTS ON MX_3 COMPOUNDS

Oscillations, Interference Effects, and Switching in Charge Density Wave Systems	A. Zettl 41
Frequency and Electric Field Dependent Transport Due to Charge Density Wave Condensates	G. Grdner 77
The Role of Contacts in the Generation of Charge-Density-Wave- Conduction Noise	N. P. Ong and G. Verma 115
Broad Band Noise of Monoclinic TaS_3 and $NbSe_3$	A. Maeda, M. Naito and S. Tanaka 128
Pinning, Memory and Motion of Charge-Density Waves in $NbSe_3$ and $o-TaS_3$	J. C. Gill 139
Depinning of the Charge-Density Wave in $NbSe_3$	M. Oda and M. Ido 161
Effect of Charge Density Wave on Reflectance Spectra of TaS_3 and $NbSe_3$	J. Nakahara, T. Taguchi, T. Araki and M. Ido 179
CDW Gap Effects on the Raman Spectra in Orthorhombic TaS_3 ..	S. Sugai 188

EXPERIMENTS ON BLUE BRONZES

Charge Density Wave Transport in the Blue Bronzes $K_{0.30}MoO_3$ and $Rb_{0.30}MoO_3$	J. Dumas and C. Schlenker 198
Elastic and Inelastic Neutron Scattering on the Metal-Insulator Transition in $K_{0.3}MoO_3$	M. Sato, H. Fujishita and S. Hoshino 216

Observation of Lattice Instability in $K_{0.3}MoO_3$ by Ion-Channeling Techniques	Y. Abe, T. Haga, T. Kimura, Y. Tajima and K. Imai	223
Hysteresis and Memory Effect in $K_{0.30}MoO_3$	(no text).....	
.....	T. Tamegai, K. Tsutsumi, S. Kagoshima and M. Sato	

EXPERIMENTS ON $(MX_4)_nY$ COMPOUNDS

A New Series of Transition Metal Tetrachalcogenides $(MX_4)_nY$ (M=Nb, Ta; X=S, Se; Y=halogen): Structural Determinations and Physical Properties	A. Meerschaut	231
Preparation, Properties and Crystal Structure of $I_{0.5}TaSe_4$	S. Kikkawa, S. Uenosono and M. Koizumi	245
Observation of the X-Ray Diffuse Scattering and the Nonlinear Conduction in $(MSe_4)_2I$ (M=Ta and Nb)	H. Fujishita, M. Sato and S. Hoshino	256

EXPERIMENTS ON MX_5 COMPOUNDS

Raman Scattering Study of the Quasi-One-Dimensional Conductor $ZrTe_5$ and $HfTe_5$	I. Taguchi, A. Grisel and F. Levy	263
High Field Magnetoresistance in $HfTe_5$ and $ZrTe_5$	A. Yamada, T. Nakayama, M. Izumi, R. Yoshizaki, K. Uchinokura and E. Matsuura	274

LOCALIZATION AND SUPERCONDUCTIVITY IN 1D CONDUCTORS

Localization-Delocalization Transition in Interacting One- Dimensional Fermion Systems	H. Fukuyama	291
Metal-Nonmetal Transition and the Superconductivity in $TaSe_3$	Y. Tajima, K. Yamaya and Y. Abe	292
Resistivity Anomalies and Superconductivity in NbS_3	M. Izumi, T. Nakayama, R. Yoshizaki, K. Uchinokura, T. Iwazumi, T. Seino and E. Matsuura	301
Coexistence of Superconductivity and CDWs in $Nb_{1-x}Ta_xSe_3$	K. Kawabata and M. Ido	324
NMR Study of the Peierls Transition and the Superconductivity in Quasi One-Dimensional Metallic Compounds: $Nb_{1-x}Ta_xSe_3$	S. Wada, M. Sasakura and R. Aoki	335