CONTENTS[†]

PREFACE 5

Thomas M. Acho
A parameter expansion method approach for the determination of the potential for the bispherical or toroidal distribution of charge 6

Gerassimos A. Athanassoulis, Konstantinos S. Politis
A Gabor-Galerkin approach for solving infinite-energy problems with constrained-at-infinity admissible functions 13

Victor V. Borisov
Solutions of the 3D telegraph equation for circular sources moving with the wavefront velocity 22

V.A. Borovikov, A.L. Popov
The far-zone asymptotics of sound field excited by a flexural wave of thin plate with a round inclusion 26

Vadim V. Borzov, Eugene V. Damaskinsky
Generalized Coherent States for oscillator connected with Meixner Polynomials 35

A. Casasso, **F. Pastrone**
Nonlinear waves in microstructured solids and complex structures 43

Paulo E.M. Cunha, L.A.C. Palermo
A Fast "Multi Source" Reverse Time Migration (RTM) 51

I. V. Denisova, D. A. Indeytsev, **A. V. Klimenko**
Stability of an infinite flexible beam under a viscous fluid flow with an exponential profile 58

Victor V. Dodonov
Quantum phenomena in cavities with moving boundaries 68

L.A. Evstigneev, V.V. Monakhov, I.B. Kernickij, A.M. Kukuta
BARSIC SLEIGN2 software for computation of regular and singular Sturm-Liouville problem eigenvalues and eigenfunctions 78

Victor Farafonov, Vladimir Il'in
The applicability of light scattering methods and the Rayleigh hypothesis 83

E. Grigoryan, S. Jilavyan, **K. Agayan**
Diffraction of waves in an elastic space with semi-infinite inclusion 90

E.Kh. Grigoryan, **A.S. Melkumyan**
On wave diffraction in a piezoelectric medium containing a semi-infinite electrode 100

[†]For multiple authors the speaker is given in bold

Hiromu Ishio
Semiclassical Analysis of Diffraction in Electronic Transmission through a Stepped Quantum Wire 110

Mikhail Karasev
Birkhoff resonances and quantum ray method 114

Yurii V. Kiselev, Vladimir N. Troyan
Numerical study of restoration of local elastic inhomogeneities by iterative approach based on the diffraction tomography method 127

Victor G. Lapin, Natalya F. Yashina
Diminishing of the three – wave decay threshold in the presence of long scale correlations of the stochastic layer 132

Svetlana Yu. Mikhnevich, Anatoly A. Afanas'ev, Valerii K. Kononenko
Spectral and output power characteristics of DFB laser heterostructures .137

Iakovos Ouranos, Efstratios Papkelis, Panayiotis Frangos
An Electromagnetic Method For Calculating Radio Coverage In Urban Environments Using Physical Optics And Physical Theory Of Diffraction 144

A.V. Porubov, I.V. Lavrenov, H. Tsuji
Formation of abnormally high localized waves due to nonlinear two-dimensional waves interaction 154

Vladimir. S. Rabinovich, Ivan Miranda Sancez
Radiation from non uniformly moving sources in the plasma 163

V. M. Shelkovich
Delta-shocks, the Rankine–Hugoniot conditions, and singular superposition of distributions 175

Irina I. Simonenko
On construction pulsating solutions of the telegraph equation 197

Alexander S. Starkov
Diffraction by a transparent cone 201

Paweł Węgrzyn
Parametric resonance in a vibrating cavity 205

P.S. Williams
The computation of the potential of a wave obliquely incident on a plane beach of any angle 215

N. F. Yashina, T. M. Zaboronkova
Parametric instability of electromagnetic waves guided by the dielectric-anisotropic medium interface 223

A. V. Kudrin, M. Yu. Lyakh, G. A. Kyriacou, **T. M. Zaboronkova**
Guided modes on radially nonuniform channels in a magnetoplasma 230

AUTHOR INDEX 247

Preface

The International Seminars **"Days on Diffraction"** are annually held by the Faculty of Physics of St.-Petersburg University, St.-Petersburg Branch of V.A. Steklov Mathematical Institute and Euler International Mathematical Institute of the Russian Academy of Sciences.

About 100 talks were presented during the four days sessions of "Days on Diffraction – 2004", 106 abstracts are published in the Seminar booklet that was distributed to the participants at the registration. This book contains the texts of 28 selected talks.

The Organizing Committee

Organizing Committee

Prof. **V.M. Babich**	St.Petersburg	Dr. V.E. Grikurov (secretary),
Prof. **V.S. Buldyrev**	St.Petersburg	Dr. I.V. Andronov,
Prof. A.P. Kiselev	St.Petersburg	Prof. N.Ya. Kirpichnikova,
Prof. V.P. Smyshlyaev	UK	Dr. Z.A. Janson, Dr. M.A. Lyalinov,
Prof. R. Stone	USA	Dr. E.V. Novikova, N.M. Sharkova
Dr. N. Zhu	Germany	

Address:

Prof. V.M. Babich	babich@pdmi.ras.ru
Prof. V.S. Buldyrev	buld@math.nw.ru
Dr. V.E. Grikurov	grikurov@math.nw.ru
Dr. I.V. Andronov	iva@aa2628.spb.edu
Web site	http://math.nw.ru/DD