

## CONTENTS

Preface .....	7
<b>Boyka Aneva</b> DEFORMED SQUEEZED STATE SOLUTION TO THE ASYMMETRIC SIMPLE EXCLUSION PROCESS .....	21
<b>Andrey Angelov and Dimitar Trifonov</b> SCHRÖDINGER MINIMUM UNCERTAINTY STATES OF EM-FIELD IN NONSTATIONARY MEDIA WITH NEGATIVE DIFFERENTIAL CONDUCTIVITY .....	35
<b>Oksana Bihun and Francesco Calogero</b> SOLVABLE AND/OR INTEGRABLE MANY-BODY MODELS ON A CIRCLE .....	46
<b>Danail Brezov, Clementina Mladenova and Ivailo Mladenov</b> EULER DECOMPOSITION IN NON-ORTHOGONAL BASES .....	63
<b>Evstati G. Evstatiev</b> A MODEL SUITABLE FOR NUMERICAL INVESTIGATION OF BEAM-SOLITON INTERACTION IN ELECTROSTATIC PLASMAS .....	74
<b>Vladimir Gerdjikov, Georgi Grahovski, Alexander Mikhailov and Tihomir Valchev</b> ON SOLITON INTERACTIONS FOR A HIERARCHY OF GENERALIZED HEISENBERG FERROMAGNETIC MODELS ON $SU(3)/S(U(1) \times U(2))$ SYMMETRIC SPACE .....	86

<b>Vladimir S. Gerdjikov and Alexandar B. Yanovski</b> ON SOLITON EQUATIONS WITH $\mathbb{Z}_h$ AND $\mathbb{D}_h$ REDUCTIONS: CONSERVATION LAWS AND GENERATING OPERATORS . . . . .	<b>118</b>
<b>David Henry, Darryl Holm and Rossen Ivanov</b> ON THE PERSISTENCE PROPERTIES OF THE CROSS-COUPLED CAMASSA-HOLM SYSTEM . . . . .	<b>153</b>
<b>Decio Levi and Christian Scimiterna</b> FOUR POINTS LINEARIZABLE LATTICE SCHEMES . . . . .	<b>165</b>
<b>Giuseppe Marmo, Giovanni Sparano and Gaetano Vilasi</b> CLASSICAL AND QUANTUM SYMMETRIES REDUCTION AND INTEGRABILITY . . . . .	<b>176</b>
<b>Clementina Mladenova, Fan Zhang and Dirk Söffker</b> PARAMETRIC REPRESENTATIONS OF $SO(n)$ ORTHOGONAL MATRICES FOR THE PURPOSES OF QUADRATIC STABILITY ANALYSIS . . . . .	<b>188</b>
<b>Petar Popivanov and Angela Slavova</b> ON VENTCEL'S TYPE BOUNDARY CONDITION FOR LAPLACE OPERATOR IN A SECTOR . . . . .	<b>206</b>
<b>Vladimir I. Pulov, Mariana Ts. Hadzhilazova and Ivailo M. Mladenov</b> DELAUNAY SURFACES IN TERMS OF WEIERSTRASSIAN FUNCTIONS . . . . .	<b>218</b>
<b>Mario Salerno</b> MAPPING BETWEEN NONLINEAR SCHRÖDINGER EQUATIONS WITH REAL AND COMPLEX POTENTIALS . . . . .	<b>225</b>
<b>Giovanni Sparano and Gaetano Vilasi</b> REPULSIVE GRAVITY OF LIGHT BEAMS . . . . .	<b>235</b>

**Michail Todorov**

ROLE OF THE NONLINEAR COUPLING IN THE COLLISION  
DYNAMICS OF QUASI-PARTICLES GOVERNED BY VECTOR NLSE... 247

**Tihomir I. Valchev**

ON THE QUADRATIC BUNDLES RELATED TO HERMITIAN  
SYMMETRIC SPACES ..... 275

**Tihomir Valchev, Rossen Ivanov and Vladimir Gerdjikov**

ZAKHAROV-SHABAT SYSTEM WITH CONSTANT BOUNDARY  
CONDITIONS. REFLECTIONLESS POTENTIALS AND END POINT  
SINGULARITIES ..... 301

**Vassil Vassilev, Peter Djondjorov, Mariana Hadzhilazova  
and Ivailo Mladenov**

ANALYTIC REPRESENTATION OF A CLASS OF AXIALLY  
SYMMETRIC WILLMORE SURFACES ..... 325

**Mihai Visinescu**

KILLING FORMS ON KERR-NUT-(A) dS SPACES OF EINSTEIN-  
SASAKI TYPE ..... 331

**Alexandar Yanovski**

RECURSION OPERATORS AND EXPANSIONS OVER ADJOINT  
SOLUTIONS FOR THE CAUDREY-BEALS-COIFMAN SYSTEM  
WITH  $\mathbb{Z}_p$  REDUCTIONS OF MIKHAILOV TYPE ..... 343

Selected list of publications ..... 359

Reports, delivered at the conference and list of participants ..... 366