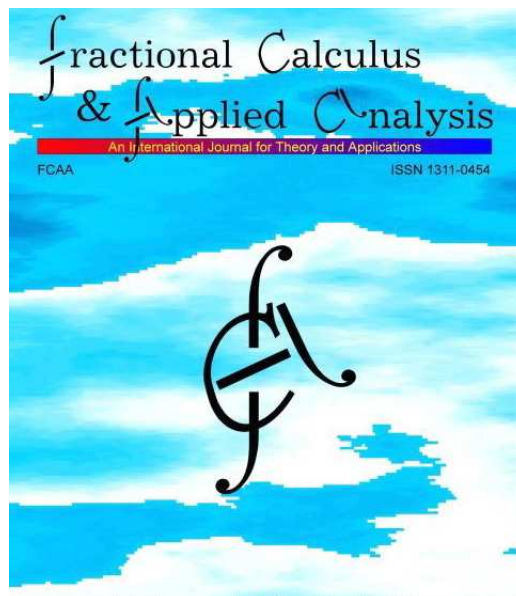


\int rational Calculus & \int pplyed \mathcal{C} alysis

An International Journal for Theory and Applications

ISSN 1311-0454



CONTENTS OF ALL VOLUMES of “FCAA”

Vol. 1 (1998) – Vol. 14 (2011)

Managing Editor: Virginia Kiryakova



EDITORIAL BOARD

Managing Editor: Virginia Kiryakova

Editorial Office

Institute of Mathematics and Informatics – Bulgarian Academy of Sciences

“Acad. Georgi Bontchev” Str., Block 8, Sofia – 1113, Bulgaria

E-mail: virginia@diogenes.bg , fcaa@math.bas.bg ; Fax: +359-2-9478608

Honorary Founding Editors [‡]

Anatoly Kilbas (Belarus), Eric Love (Australia), Ian Sneddon (UK)

Honorary Editors

Paul Butzer (Germany)

Gary Roach (UK)

Michele Caputo (Italy)

Megumi Saigo (Japan)

Rudolf Gorenflo (Germany)

Jerome Spanier (USA)

Shyam L. Kalla (India)

Hari M. Srivastava (Canada)

Danuta Przeworska-Rolewicz (Poland) Bogoljub Stanković (Serbia)

Members of Editorial Board

Boris Baeumer (N. Zealand)

Juan J. Nieto (Spain)

Lyubomir Boyadjeff (Bulgaria)

Ivo Petras (Slovak R.)

Yury Brychkov (Russia)

Igor Podlubny (Slovak R.)

Kai Diethelm (Germany)

Sergei Rogosin (Belarus)

Ivan Dimovski (Bulgaria)

Boris Rubin (USA)

Neville Ford (UK)

Peter Rusev (Bulgaria)

Alan Freed (USA)

Jocelyn Sabatier (France)

Rudolf Hilfer (Germany)

Stefan Samko (Portugal)

Mourad Ismail (USA)

Enrico Scalas (Italy)

Ravi N. Kalia (USA)

Jose A. Tenreiro Machado (Portugal)

Anatoly Kochubei (Ukraine)

Juan J. Trujillo (Spain)

Yury Luchko (Germany)

Sabir Umarov (USA)

Richard Magin (USA)

Blas Vinagre (Spain)

Francesco Mainardi (Italy)

Vu Kim Tuan (USA)

Oleg Marichev (USA)

YangQuan Chen (USA)

Piotr Mikusinski (USA)

Ahmed Zayed (USA)

Technical Assistant: Stefan Kiryakov (Diogenes Co., Bulgaria)

Contents

Preface

D. Przeworska-Rolewicz

CARLEMAN OPERATORS IN COMMUTATIVE ALGEBRAS
WITH LOGARITHMS 1

Bl. Sendov, P. Marinov

BINARY EXPONENTIAL FRACTAL FUNCTIONS 23

L. Galue, S. L. Kalla

SOME RECURRENCE RELATIONS FOR THE GENERALIZED
HYPERGEOMETRIC FUNCTIONS OF THE GAUSS TYPE 49

Yu. Luchko, R. Gorenflo

SCALE-INVARIANT SOLUTIONS OF A PARTIAL DIFFERENTIAL
EQUATION OF FRACTIONAL ORDER 63

V. S. Kiryakova, M. Saigo, H. M. Srivastava

SOME CRITERIA FOR UNIVALENCE OF ANALYTIC FUNCTIONS
INVOLVING GENERALIZED FRACTIONAL CALCULUS
OPERATORS 79

Information on International Meetings105

Addresses of the EB Members

Order Form, Subscription Details

Contents

G. G. Walter, A. I. Zayed MULTIRESOLUTION ANALYSIS WITH SAMPLING SUBSPACES	109
C. A. M. van Berkel, J. de Graaf THE FOURIER-JACOBI TRANSFORM OF ANALYTIC FUNCTIONS WHICH ARE (ALMOST) PERIODIC IN THE IMAGINARY DIRECTION	125
A. A. Kilbas, B. Bonilla, M. Rivero, J. Rodriguez, J. Trujillo COMPOSITIONS OF BESSEL TYPE INTEGRAL TRANSFORM WITH FRACTIONAL OPERATORS ON SPACES $\mathcal{F}_{p,\mu}$ AND $\mathcal{F}'_{p,\mu}$..	135
P. Rusev ON THE ASYMPTOTICS OF THE WEBER-HERMITE FUNCTION IN THE COMPLEX PLANE	151
R. Gorenflo, F. Mainardi RANDOM WALK MODELS FOR SPACE-FRACTIONAL DIFFUSION PROCESSES	167
B. Rubin FRACTIONAL CALCULUS AND WAVELET TRANSFORMS IN INTEGRAL GEOMETRY	193
Information on International Meetings	192, 220
Proceedings "TMSF, Varna'96" (Contents)	221
Addresses of the EB Members	
Order Form, Subscription Details	

Contents

S. Samko

A NEW APPROACH TO THE INVERSION
OF THE RIESZ POTENTIAL OPERATOR 225

V. M. Almeida, J. Rodríguez

AN ALGEBRAIC DERIVATIVE AND SOME OF
ITS APPLICATIONS 247

E. Bazhlekova

THE ABSTRACT CAUCHY PROBLEM FOR
THE FRACTIONAL EVOLUTION EQUATION 255

M. L. Glasser, A. A. Al-Jarrah

SOME SONINE-GEIGENBAUER INTEGRALS 271

G. R. Miller

SHIFT OPERATORS AND FRACTIONAL CALCULUS 279

S. B. Yakubovich, L. D. Gusarevich

ON THE NON-CONVOLUTION TRANSFORMATION WITH
THE MACDONALD TYPE KERNEL FUNCTION 297

Jae Ho Choi

UNIVALENT FUNCTIONS WITH POSITIVE COEFFICIENTS
INVOLVING A CERTAIN FRACTIONAL INTEGRAL OPERATOR
AND ITS PARTIAL SUMS 311

Information on International Meetings 319

Proceedings of International Meetings 321

Addresses of the EB Members 323

Order Form, Subscription Details 325

Contents

B. Stanković

S-BOUNDED FOURIER HYPERFUNCTIONS 327

R. K. Raina, R. N. Kalia

CHARACTERIZATIONS FOR SUBCLASSES OF ANALYTIC
FUNCTIONS CONNECTING LINEAR FRACTIONAL
CALCULUS OPERATORS 334

S. Kempfle

CAUSALITY CRITERIA FOR SOLUTIONS OF
LINEAR FRACTIONAL DIFFERENTIAL EQUATIONS 351

I. A. Aliev, S. Bayrakci

ON INVERSION OF *B*-ELLIPTIC POTENTIALS BY
THE METHOD OF BALAKRISHNAN-RUBIN 365

L. Boyadjiev, H.-J. Dobner

ON THE SOLUTION OF A FRACTIONAL
FREE ELECTRON LASER EQUATION 385

N. Südland, G. Baumann, T. F. Nonnenmacher

OPEN PROBLEM: WHO KNOWS ABOUT THE \aleph -FUNCTIONS ? 401

O. Marichev, M. Trott

THE MATHEMATICAL FUNCTIONS OF *MATHEMATICA*
(Announce for a POSTER) 403

Djrbashian Memorial Conference (DMC98)

(Erevan, Sept. 10-12, 1998; M. M. Djrabshian 1918-1994) 409

Colloquium FRACTIONAL DIFFERENTIAL SYSTEMS

(Paris, December 3-4, 1998; Information) 415

Internat. Conference on Scientific Computations

(Beirut, March 15-17, 1999; ICS99) 417

Session on FUNCTION SPACES AND APPL-S

(Fukuoka, August 16-21, 1999; at Internat. Congress ISAAC99) 419

3rd Internat. Workshop TMSF, AUBG'99

(Blagoevgrad (Bulgaria), August 13-20, 1999) 421

Addresses of the EB Members, Order Form FCAA 425

Contents of Vol.1, No 1 - No 4 431

Contents

A. Oustaloup, J. Sabatier, P. Lanusse	
FROM FRACTAL ROBUSTNESS TO THE CRONE CONTROL	1
A. Denisjuk	
INTEGRAL GEOMETRY ON THE FAMILY OF SEMI-SPHERES ..	31
B. Rubin	
L^p -PROPERTIES OF SOLUTIONS OF THE SINGULAR HELMHOLTZ EQUATION IN THE HALF-SPACE	47
S. Samko	
SOME REMARKS ON THE AUTHOR'S PAPER "A NEW APPROACH TO THE INVERSION OF THE RIESZ POTENTIAL OPERATOR"	63
N. Karapetiants, S. Samko	
MULTI-DIMENSIONAL INTEGRAL OPERATORS WITH HOMOGENEOUS KERNELS	67
E. Moiseev, K. Skornik, W. Kierat	
LIFE AND WORK OF PROF. A.P. PRUDNIKOV	97
A. Kilbas, S. Samko	
A.P. PRUDNIKOV: A NOTE IN MEMORIAM	107
A. Carpinteri, F. Mainardi (Ed-s)	
FRACTALS AND FRACTIONAL CALCULUS IN CONTINUUM MECHANICS (Annotation of a Proceedings)	109
I. Podlubny (Author)	
FRACTIONAL DIFFERENTIAL EQUATIONS: An Introduction to ... (Annotation of a New Book)	113
R. Hilfer (Editor)	
APPLICATIONS OF FRACTIONAL CALCULUS IN PHYSICS (Annotation of a New Volume)	121
Informations on International Meetings	
"TMSF,AUBG'99", "AMADE'99", "AART'99"	123, 125, 127
Addresses of the EB Members	129
Order Form, Subscription Details	131
Contents of Vol.1 (1999)	133

Contents

Vu Kim Tuan

PALEY-WIENER-TYPE THEOREMS 135

M.L. Glasser, M.E.H. Ismail

A CURIOUS EXPRESSION FOR THE WEYL
FRACTIONAL INTEGRAL 145

D. Przeworska-Rolewicz

ISOMORPHISMS PRESERVING LEIBNIZ CONDITION 149

R. Gorenflo, Yu. Luchko, P.P. Zabrejko

ON SOLVABILITY OF LINEAR FRACTIONAL DIFFERENTIAL
EQUATIONS IN BANACH SPACES 163

N.K. Karapetiants, L.D. Shankishvili

A SHORT PROOF OF HARDY-LITTLEWOOD-TYPE
THEOREM FOR FRACTIONAL INTEGRALS IN
WEIGHTED HÖLDER SPACES 177

A.N. Karapetyants, E. Ramírez de Arellano

CHARACTERIZATION OF ANISOTROPIC LIZORKIN-TYPE
MIXED NORM SPACES GENERATED BY DEGENERATE
DIFFERENTIAL OPERATORS 193

V.A. Nogin, S.G. Samko

SOME APPLICATIONS OF POTENTIALS AND
APPROXIMATIVE INVERSE OPERATORS IN
MULTI-DIMENSIONAL FRACTIONAL CALCULUS 205

Addresses of the EB Members 229

Order Form, Subscription Details 231

Contents

N. Virchenko ON SOME GENERALIZATIONS OF THE FUNCTIONS OF HYPERGEOMETRIC TYPE	233
F. Levron, J. Sabatier, A. Oustaloup, L. Habsieger FROM PARTIAL DIFFERENTIAL EQUATIONS OF PROPAGATIVE RECURSIVE SYSTEMS TO NON INTEGER DIFFERENTIATION	245
I. Aliev ON THE BOCHNER-RIESZ SUMMABILITY AND RESTORATION OF μ -SMOOTH FUNCTIONS BY MEANS OF THEIR FOURIER TRANSFORMS	265
R.M. Peat, W.J. Spratt & A.C. McBride SPACES OF SMOOTH FUNCTIONS ON \mathbf{R}_+ FOR MELLIN MULTIPLIER TRANSFORMS	277
R.M. Peat, A.C. McBride SPACES OF SMOOTH FUNCTIONS ON \mathbf{R}^n VIA SPHERICAL HARMONICS	289
K. Diethelm ESTIMATION OF QUADRATURE ERRORS IN TERMS OF CAPUTO-TYPE FRACTIONAL DERIVATIVES	313
N.G. Samko, S.G. Samko ON APPROXIMATIVE DEFINITION OF FRACTIONAL DIFFERENTIATION	329
A.A. Kilbas, J.J. Trujillo ON THE HANKEL-TYPE INTEGRAL TRANSFORM IN $\mathcal{L}_{\nu,r}$ -SPACES	343
International Meetings VIII INTERNATIONAL M. CRAVCHUK CONFERENCE	354
Addresses of the EB Members	355
Order Form, Subscription Details	357

**Proc. of the 4th International Workshop
“TMSF,AUBG’99”, Part A**

Contents

Preface

E. Bazhlekova

PERTURBATION PROPERTIES FOR ABSTRACT EVOLUTION
EQUATIONS OF FRACTIONAL ORDER359

L.T. Dechevsky

ATOMIC DECOMPOSITION OF FUNCTION SPACES AND
FRACTIONAL INTEGRAL AND DIFFERENTIAL OPERATORS ..367

R. Gorenflo, Yu. Luchko, F. Mainardi

ANALYTICAL PROPERTIES AND APPLICATIONS
OF THE WRIGHT FUNCTION383

S. Kempfle, I. Schaefer

FUNCTIONAL CALCULUS METHOD
VERSUS RIEMANN-LIOUVILLE APPROACH 415

A.A. Kilbas, M. Saigo, A. Borovco

ON THE LOMMEL-MAITLAND TRANSFORM IN $\mathcal{L}_{\nu,r}$ -SPACE 429

V. Kiryakova

MULTIINDEX MITTAG-LEFFLER FUNCTIONS,
RELATED GELFOND-LEONTIEV OPERATORS
AND LAPLACE TYPE INTEGRAL TRANSFORMS445

Yu. Luchko

OPERATIONAL METHOD IN FRACTIONAL CALCULUS463

S.T. Mincheva

ON THE AUTOMORPHISMS OF L^1 COMMUTING
WITH A GENERALIZED INTEGRATION OPERATOR489

A.H. Al-Shammery, S.L. Kalla, H.G. Khajah A FRACTIONAL GENERALIZATION OF THE FREE ELECTRON LASER EQUATION	501
K. Skornik MIKUSINSKI'S OPERATIONAL CALCULUS AND ITS APPLICATIONS	509
N. Virchenko ON A GENERALIZED LAGUERRE'S FUNCTION AND ITS APPLICATIONS	529
M. Zähle FRACTIONAL INTEGRALS AND DERIVATIVES WITH RESPECT TO A MEASURE	537
H.M. Srivastava Book's Review: FRACTIONAL DIFFERENTIAL EQUATIONS by I. Podlubny	543
Reports on International Meetings AART (Sept. 21-25, 1999, Warsaw)	546
Reports on International Meetings AMADE (Sept. 14-18, 1999, Minsk)	547
Addresses of the EB Members	549
Order Form, Subscription Details	551
Participants in the "TMSF,AUBG'99" Workshop	553

**Proc. of the 4th International Workshop
“TMSF,AUBG’99”, Part B**

Contents

Preface

M.B. Abd-el-Malek, F.H. Michael, A.H. Twefick
NONLINEAR GRAVITY WAVES OVER
IRREGULAR BOTTOM VIA PERTURBATION METHOD 555

F. Al-Sirehy, B. Fisher
THE COMPOSITION OF THE FUNCTIONS $|x|^{-\lambda}$ AND $|x|^{2r/\lambda}$ 575

G.I. Balikov, I.P. Dimitrov
SOME NOTES ON ZAHARIUTA-VOGT’S CONDITIONS 583

G.I. Chobanov, I.H. Dimovski
A TWO-VARIATE OPERATIONAL CALCULUS
FOR BOUNDARY VALUE PROBLEMS 591

J. Chung, S.-Y. Chung, D. Kim, H. Kim
TRIGONOMETRIC SERIES AND
ALMOST PERIODIC GENERALIZED FUNCTIONS 603

Soon-Yeong Chung
A TEMPERATURE TRANSFORM AND
A BIHARMONIC ANALYSIS ON TEMPERATURES 613

S.-Y. Chung, D. Kim, Y. Yeom
STIELTJES MOMENT PROBLEM
FOR GEL’FAND-LEONTIEV SPACES 623

I.P. Dimitrov
ABOUT OVERCONVERGENT FUNCTIONAL SERIES IN
THE SPACE OF ANALYTIC FUNCTIONS IN THE UNIT DISK ... 631

S.B. Doma
MOMENTS OF INERTIA OF DEFORMED NUCLEI 637

A.M. Hamzeh
DESIGN CONSIDERATIONS AND COMPUTATIONAL
METHODS FOR ESTIMATION OF RATIOS 651

A. Kamiński, D. Perišić, S. Pilipović THE CONVOLUTION AND CONVOLUTORS IN GEL'FAND-SHILOV SPACES OF DISTRIBUTIONS	657
E. Malkowsky, E. Savas MATRIX TRANSFORMATIONS IN SOME SPACES OF ALMOST SUMMABLE AND BOUNDED SEQUENCES	669
M.I. Mitreva TAME EXTENSION OPERATORS FOR HERMITE'S INTERPOLATION PROBLEM ON ANALYTIC VARIETES	679
J. Paneva-Konovska A TAUBER TYPE THEOREM FOR SERIES IN BESSEL FUNCTIONS	683
P. Rusev PERRON'S TYPE ASYMPTOTIC FORMULAS FOR THE LAGUERRE POLYNOMIALS	689
M. Salameh, A.N. El-Kassar, R.E. Ghattas, B.S. Maddah THE CONTINUOUS REVIEW INVENTORY MODEL, A MODIFIED APPROACH	699
M. Skwarczynski ON COMPLETENESS OF INFINITELY CONNECTED DOMAINS	711
T. Stoyanov ABOUT A PROBLEM OF OBRESHKOFF	717
N. Tuneski A NOTE ON SOME SIMPLE SUFFICIENT CONDITIONS FOR UNIVALENCE	721
V. Vatchev TURÁN QUADRATURES FOR FOURIER COEFFICIENTS AND POLYNOMIALS OF MINIMAL DEVIATION	729
Addresses of the EB Members	739
Order Form, Subscription Details	741
Participants in the "TMSF,AUBG'99" Workshop	743

Contents

Om P. Agrawal

A GENERAL SOLUTION FOR THE FOURTH-ORDER
FRACTIONAL DIFFUSION-WAVE EQUATION 1

A. Meskhi

ON THE BOUNDEDNESS AND COMPACTNESS OF BALL
FRACTIONAL INTEGRAL OPERATORS 13

D. Przeworska-Rolewicz

NULLITY, DEFICIENCY AND COMMUTATORS OF
LINEAR, LOGARITHMIC AND ANTILOGARITHMIC MAPPINGS 31

W. Wyss

THE FRACTIONAL BLACK-SCHOLES EQUATION 51

R.B. Paris, G.V. Liakhovetski

ASYMPTOTICS OF THE MULTIDIMENSIONAL
FAKÉN INTEGRAL 63

R. Gorenflo, A. Iskenderov, Yu. Luchko

MAPPING BETWEEN SOLUTIONS OF FRACTIONAL
DIFFUSION-WAVE EQUATIONS 75

V.A. Nogin, P.A. Luzhetskaya

INVERSION AND DESCRIPTION OF THE RANGES
OF MULTIPLIER OPERATORS OF
STRICHARTZ-PEREL-MIYACHI-TYPE 87

Kluwer Acad. Publishers:

ENCYCLOPAEDIA OF MATHEMATICS (Info and Reprinted Items) 97

D. Przeworska-Rolewicz, ALGEBRAIC ANALYSIS 100

B. Rubin, CALDERÓN-TYPE REPRODUCING FORMULA 103

International Meetings 107

Addresses of the EB Members 113

Order Form, Subscription Details 115

Contents of Vol. 1 and Vol. 2 117

Contents

A.W. Niukkanen, V.I. Perevozchikov, V.A. Lurie A GENERALIZATION OF A CLASSICAL RELATION BETWEEN $J_{\nu+n}(z)$, $J_{\nu}(z)$ and $J_{\nu-1}(z)$ WITH COMMENTS ON THE MODERN STATE AND TRENDS IN SPECIAL FUNCTIONS	119
Nguyen Minh Chuong, Ta Ngoc Tri THE INTEGRAL WAVELET TRANSFORM IN $L^p(\mathbf{R}^n)$, $1 \leq p \leq \infty$	133
A.N. Karapetyants, E. Ramírez de Arellano ON THE INVERSION OF POTENTIAL TYPE OPERATORS WITH KERNELS HAVING SINGULARITIES ON A SPHERE	141
L. Galué, I. Ali, S.L. Kalla AN EXTENSION OF THE LAGUERRE POLYNOMIALS AND ASSOCIATED ORTHONORMAL FUNCTIONS	161
U. Skórnik A REMARK ON ELEMENTS OF $D'_{L^q}(\mathbf{R})$ AS BOUNDARY VALUES OF HOLOMORPHIC FUNCTIONS	173
B. Rubin GENERALIZED MINKOWSKI-FUNK TRANSFORMS AND SMALL DENOMINATORS ON THE SPHERE	177
New Book from World Scientific Publ.: PARTIAL DIFFERENTIAL EQUATIONS, An Introduction with <i>Mathematica</i> and Maple, by I.P. Stavroulakis, S. Tersian	205
Old Book from Longman \mapsto CRC Press: GENERALIZED FRACTIONAL CALCULUS AND APPLICATIONS, by V. Kiryakova	207
Addresses of the EB Members	209
Order Form, Subscription Details	211

Contents

E.G. Bazhlekova

SUBORDINATION PRINCIPLE FOR FRACTIONAL
EVOLUTION EQUATIONS 213

B. M. Vinagre, I. Podlubny, A. Hernández, V. Feliu

SOME APPROXIMATIONS
OF FRACTIONAL ORDER OPERATORS
USED IN CONTROL THEORY AND APPLICATIONS 231

R. Gorenflo, Yu.F. Luchko, S.R. Umarov

ON THE CAUCHY AND MULTI-POINT PROBLEMS
FOR PARTIAL PSEUDO-DIFFERENTIAL EQUATIONS
OF FRACTIONAL ORDER 249

D. Przeworska-Rolewicz

SPECIAL FUNCTIONS AS ANTILOGARITHMS
OF SECOND ORDER 277

N.M. Atakishiyev, M.K. Atakishiyeva

ON A SIMPLE INTEGRAL REPRESENTATION
OF THE CONTINUOUS q -HERMITE POLYNOMIALS 297

F. Al-Musallam, Vu Kim Tuan

A CLASS OF CONVOLUTION TRANSFORMATIONS 303

Open Problem: ARITHMETICAL PROPERTIES OF

GEGENBAUER POLYNOMIALS ..., by B. Rubin 315

Corrigenda: LETTER, by S. Samko 317

Corrigenda: CORRECTIONS to paper: "A two-variate operational ...",
FCAA **2**, No 5 (1999), 591-601, by G.I. Chobanov, I.H. Dimovski 318

Anniversary: 60th ANNIVERSARY of Professor H.M. Srivastava . 319

Meetings: 3rd Internat. ISAAC Congress (Berlin, 2001) 327

Meetings: Internat. Conf. "AMADE-2001" (Minsk) 333

Addresses of the EB Members 335

Order Form, Subscription Details 337

Contents

Anniversary: 70th ANNIVERSARY of Professor R. GORENFLO

New Website: FRACALMO

Letters by V. Kiryakova, A. Kilbas and S. Samko, O. Marichev 339

CV and List of Publications of R. Gorenflo 343

Vu Kim Tuan, Dinh Thanh Duc

AUTOMATIC EVALUATION OF AN ABSCISSA OF

CONVERGENCE FOR INVERSE LAPLACE TRANSFORM 353

I. Podlubny

MATRIX APPROACH TO DISCRETE FRACTIONAL CALCULUS 359

S. Kempfle, I. Schäfer

FRACTIONAL DIFFERENTIAL EQUATIONS

AND INITIAL CONDITIONS 387

S.G. Samko, B.G. Vakulov

ON EQUIVALENT NORMS IN FRACTIONAL ORDER

FUNCTION SPACES OF CONTINUOUS FUNCTIONS

ON THE UNIT SPHERE 401

B. Rubin

FRACTIONAL DIFFERENTIATION AND

SPHERICAL RADON TRANSFORMS 435

A.A. Kilbas, S.V. Demianko

SOLUTION OF MULTI-DIMENSIONAL ABEL-TYPE INTEGRAL

EQUATIONS WITH POWER-LOGARITHMIC KERNELS 439

R. Gorenflo, Yu.F. Luchko, S.R. Umarov

ON SOME BOUNDARY VALUE PROBLEMS

FOR PSEUDO-DIFFERENTIAL EQUATIONS WITH

BOUNDARY OPERATORS OF FRACTIONAL ORDER 453

In Memoriam: Prof. IAN N. SNEDDON (08.12.1919-04.11.2000) .. 469

Notes by V. Kiryakova, A. McBride 471

Meetings: "OPSFA", Roma, June 18-22, 2001 438

Addresses of the EB Members 475

Order Form, Subscription Details 477

Contents

V. Kokilashvili, A. Meskhi FRACTIONAL INTEGRALS ON MEASURE SPACES	1
P. Mikusinski, M. Morimoto BOEHMIANS ON THE SPHERE AND THEIR SPHERICAL HARMONIC EXPANSIONS	25
G.D. Handley, J.J. Koliha, J. Pečarić HILBERT-PACHPATTE TYPE INTEGRAL INEQUALITIES FOR FRACTIONAL DERIVATIVES	37
J. A. Tenreiro Machado DISCRETE-TIME FRACTIONAL-ORDER CONTROLLERS	47
A.P. Chegolin, V.A. Nogin ON THE \mathcal{L} - CHARACTERISTIC OF SOME MULTIPLIER OPERATORS WITH OSCILLATING SYMBOLS IN THE NON-ELLIPTIC CASE	67
F.M. Hafez, A.M.A. El-Sayed, M.A. El-Tawil ON A STOCHASTIC FRACTIONAL CALCULUS	81
S.L. Kalla, B.N. Al-Saqabi FURTHER RESULTS ON A UNIFIED FORM OF GAMMA-TYPE DISTRIBUTIONS	91
B.G. Vakulov, N.K. Karapetiants, L.D. Shankishvili SPHERICAL HYPERSINGULAR OPERATORS OF IMAGINARY ORDER AND THEIR MULTIPLIERS	101
Anniversary: 60th ANNIVERSARY of Professor S. SAMKO Letters by the Editor, N. Karapetiants and A. Kilbas, B. Rubin	113
CV and List of Publications of S. Samko	117
Meetings: "Constructive Function Theory 2002", Varna, Bulgaria ..	36
Addresses of the EB Members	131
Order Form, Subscription Details	133

Contents

Tae Sik Kim, Seunghwan Kim RELATIONS BETWEEN DIMENSIONS AND DIFFERENTIABILITY OF CURVES	135
Nguyen Minh Chuong, Bui Kien Cuong GALERKIN-WAVELET APPROXIMATION FOR A CLASS OF PARTIAL INTEGRO-DIFFERENTIAL EQUATIONS	143
F. Mainardi, Yu. Luchko, G. Pagnini THE FUNDAMENTAL SOLUTION OF THE SPACE-TIME FRACTIONAL DIFFUSION EQUATION	153
D. Przeworska-Rolewicz RIEMANN-HILBERT TYPE PROBLEMS WITH INVOLUTIONS IN LEIBNIZ ALGEBRAS WITH LOGARITHMS	193
G.F. Roach WAVE SCATTERING BY TIME DEPENDENT PERTURBATIONS	209
I. Dimovski, K. Skórnik MEAN-PERIODIC OPERATIONAL CALCULI. SINGULAR CASES ... 237	
I. Dimovski, A. Kamiński, S. Mincheva THE COMMUTANT OF AN INTEGRATION OPERATOR WITH MULTIPOINT FUNCTIONAL	245
Anniversary: 70th ANNIVERSARY of Professor Danuta PRZEWORSKA-ROLEWICZ Letters by the Editor and K. Skornik	255
CV and List of Publications	256
Meetings: "Analytical Methods of Analysis and Differential Equations" (AMADE-2001), Minsk, Belarus, February 15-19, 2001	267
Addresses of the EB Members	269
Order Form, Subscription Details	271

Contents

M. M. Wyss, W. Wyss EVOLUTION, ITS FRACTIONAL EXTENSION AND GENERALIZATION	273
K. M. Kolwankar, J. Lévy Véhel MEASURING FUNCTIONS SMOOTHNESS WITH LOCAL FRACTIONAL DERIVATIVES	285
M. Aslam Chaudhry, S. M. Zubair EXTENDED GAMMA AND DIGAMMA FUNCTIONS	303
S. R. Umarov, E. M. Saydamatov ON THE SPECTRUM OF GENERAL PSEUDO-DIFFERENTIAL OPERATORS	327
V. A. Nogin, D. N. Karausev ON THE \mathcal{L} -CHARACTERISTIC OF SOME POTENTIAL- TYPE OPERATORS WITH RADIAL KERNELS, HAVING SINGULARITIES ON A SPHERE	343
Jae Ho Choi, Yong Chan Kim, S. Owa FRACTIONAL CALCULUS OPERATOR AND ITS APPLICATIONS IN THE UNIVALENT FUNCTIONS	367
L. Boyadjiev, S. L. Kalla SERIES REPRESENTATIONS OF ANALYTIC FUNCTIONS AND APPLICATIONS	379
Anniversary: 70th ANNIVERSARY of Professor Peter RUSEV	409
New Books: by H.M. Srivastava and J. Choi	302
by M Aslam Chaudhry and S.M Zubair	325
Addresses of EB Members, Order Form, Subscriptions	417

Contents

M. Caputo

DISTRIBUTED ORDER DIFFERENTIAL EQUATIONS

MODELLING DIELECTRIC INDUCTION AND DIFFUSION 421

H. Mejjaoli, Kh. Trimèche

HARMONIC ANALYSIS ASSOCIATED WITH
THE DUNKL-BESSEL LAPLACE OPERATOR

AND A MEAN VALUE PROPERTY 443

B. Baeumer, M.M. Meerschaert

STOCHASTIC SOLUTIONS FOR FRACTIONAL
CAUCHY PROBLEMS 481

B. Stankovic, T.M. Atanackovic

ON A MODEL OF A VISCOELASTIC ROD 501

S. Samko, M. Yakhshiboev

ON A CLASS OF IDENTITY APPROXIMATION

OPERATORS OF A NON-CONVOLUTION TYPE 523

K. Diethelm, N.J. Ford

NUMERICAL SOLUTION METHODS FOR

DISTRIBUTED ORDER DIFFERENTIAL EQUATIONS 531

Yu.A. Brychkov

A GENERALIZATION OF THE COOKE'S DUPLICATION

FORMULAS FOR BESSEL FUNCTIONS 543

In Memoriam: Prof. E.R. LOVE (31.03.1912-7.08.2001) 549

Obituary by J.F. Clark, Note by Editor 550, 551

A note in memoriam by A. Kilbas, S. Samko 552

Books: by N. Virchenko, I. Fedotova, "Generalized Associated ... " 555

by U. Trottenberg, C.W. Oosterlee, A. Schuller, "Multigrid" 557

International Meetings 558, 559, 562, 563

Addresses of EB Members, Order Form, Subscriptions 565

Contents

A. Jouini, K. Trimèche GENERALIZED WAVELET PACKETS AND APPLICATION TO THE INVERSION OF THE J.L. LIONS TRANSMUTATION OPERATOR	1
M.M. Meerschaert, H.-P. Scheffler SEMISTABLE LÉVY MOTION	27
L. de Rosa, A. de la Torre ON CONDITIONS FOR THE BOUNDEDNESS OF THE WEYL FRACTIONAL INTEGRAL IN THE CASE $1 < q \leq p < \infty$	55
G. Dattoli, P.E. Ricci, C. Cesarano DIFFERENTIAL EQUATIONS FOR APPELL TYPE POLYNOMIALS	69
N. Jacob, A. M. Krägeloh FELLER SEMIGROUPS ON $C_\infty(\mathbb{R}^n \times T^1)$ GENERATED BY WEYL FRACTIONAL DERIVATIVES AND PSEUDO-DIFFERENTIAL OPERATORS	77
Book's Review , by V. A. Nogin, for: HYPER SINGULAR INTEGRALS AND THEIR APPLICATIONS, by Stefan G. Samko	117
Letter to Editor , by S. G. Samko: Prof. N. KARAPETIANTS's 60th BIRTHDAY	123
Addresses of EB Members, Order Form, Subscriptions	127

Contents

D.N. Karasev

$L_p \rightarrow L_q$ - ESTIMATES FOR SOME POTENTIAL-TYPE
OPERATORS WITH OSCILLATING KERNELS 131

A.A. Rousan, E. Malkawi, E.M. Rabei, H. Widyan

APPLICATIONS OF FRACTIONAL CALCULUS
TO GRAVITY 155

P.K. Banerji, L. Debnath, G.M. Shenan

APPLICATION OF FRACTIONAL DERIVATIVE
OPERATORS TO THE MAPPING PROPERTIES
OF ANALYTIC FUNCTIONS 169

V. Karunakaran, R. Roopkumar

ULTRA BOEHMIANS
AND THEIR FOURIER TRANSFORMS 181

D. Przeworska-Rolewicz

BINOMIALS FORMULAE
IN COMMUTATIVE LEIBNIZ ALGEBRAS WITH LOGARITHMS 195

A.A. Kilbas, E.K. Schetnikov

GENERALIZED HANKEL-TYPE INTEGRAL TRANSFORM
ON $\mathcal{L}_{\nu,r}$ -SPACES 209

Archives: B. L. J. Braaksma

IN MEMORIAM C. S. MEIJER (originally publ. in
"Nieuw Archief voor Wiskunde (3)", XXIII (1975), 95-104) 227

Letter to Editor, by S. G. Samko:

CONGRATULATIONS TO VIRGINIA KIRYAKOVA
ON HER 50th ANNIVERSARY 237

International Meetings 245, 249

Addresses of EB Members, Order Form, Subscriptions 251

Contents

V. Kokilashvili, A. Meskhi WEIGHT INEQUALITIES FOR ONE-SIDED POTENTIALS FOR CRITICAL WEIGHTS	255
H. Irmak, G. Tinaztepe, Y.C. Kim, J.H. Choi CERTAIN CLASSES AND INEQUALITIES INVOLVING FRACTIONAL CALCULUS AND MULTIVALENT FUNCTIONS	267
A. Yakubov FRACTIONAL TYPE INTEGRATION OPERATORS IN WEIGHTED GENERALIZED HÖLDER SPACES	275
N. K. Karapetiants ON BEHAVIOUR OF THE NORMS OF FRACTIONAL INTEGRALS OF LARGE ORDERS	295
N.E. Cho, S.Y. Woo, S. Owa UNIFORM CONVEXITY PROPERTIES FOR HYPERGEOMETRIC FUNCTIONS	303
D.N. Karasev, V.A. Nogin DESCRIPTION OF THE RANGES OF SOME POTENTIAL-TYPE OPERATORS WITH OSCILLATING KERNELS IN THE NON-ELLIPTIC CASE	315
International Meetings	266, 314
Addresses of EB Members, Order Form, Subscriptions	351-354

Contents

Anniversary: 60th ANNIVERSARY of Professor F. MAINARDI CONGRATULATIONS, LIST OF PUBLICATIONS	357
I. Podlubny GEOMETRIC AND PHYSICAL INTERPRETATION OF FRACTIONAL INTEGRATION AND FRACTIONAL DIFFERENTIATION	367
Vu Kim Tuan, Dinh Thanh Duc A NEW REAL INVERSION FORMULA OF THE LAPLACE TRANSFORM AND ITS CONVERGENCE RATE	387
N. Jacob, A. M. Krägeloh THE CAPUTO DERIVATIVE, FELLER SEMIGROUPS, AND THE FRACTIONAL POWER OF THE FIRST ORDER DERIVATIVE ON $C_\infty(\mathbb{R}_0^+)$	395
S. Kempfle, I. Schäfer, H. Beyer FUNCTIONAL CALCULUS AND A LINK TO FRACTIONAL CALCULUS	411
E. Bazhlekova STRICT L^p SOLUTIONS FOR FRACTIONAL EVOLUTION EQUATIONS	427
A.A. Kilbas, M. Saigo, J.J. Trujillo ON THE GENERALIZED WRIGHT FUNCTION	437
O. V. Doubrovina, S. V. Rogosin ON LINEAR AND NONLINEAR INTEGRAL EQUATIONS ON FINITE INTERVALS	461
H.M. Srivastava SOME FAMILIES OF MULTIVARIABLE BIORTHOGONAL POLYNOMIALS AND ASSOCIATED GENERATING FUNCTIONS	479
R. Gorenflo, J. Loutchko, Yu. Luchko COMPUTATION OF THE MITTAG-LEFFLER FUNCTION $E_{\alpha,\beta}(z)$ AND ITS DERIVATIVE	491
International Meeting: AMADE-2003	519
Addresses of EB Members, Order Form, Subscriptions	521 - 524

Contents

A. Oustaloup, V. Pommier, P. Lanusse DESIGN OF A FRACTIONAL CONTROL USING PERFORMANCE CONTOURS. APPLICATION TO AN ELECTROMECHANICAL SYSTEM	1
B. Rubin NOTES ON RADON TRANSFORMS IN INTEGRAL GEOMETRY	25
J. A. Tenreiro Machado A PROBABILISTIC INTERPRETATION OF THE FRACTIONAL-ORDER DIFFERENTIATION	73
P. Rusev A NOTE ON JONQUIÈRE POLYNOMIALS	81
Yu. V. Vasil'ev MODIFIED WHITTAKER TRANSFORM ON $\mathcal{L}_{\nu,r}$ -SPACE	97
Corrections: to Figure 4 in: "GEOMETRIC AND PHYSICAL INTERPRETATION ...", <i>FCAA</i> 5 , No 4 (2002), 367-386, by I. Podlubny	109
Corrections: to paper "COMPUTATION OF THE MITTAG-LEFFLER FUNCTION ...", <i>FCAA</i> 5 , No 4 (2002), 491-518, by R. Gorenflo, J. Loutchko, Y. Luchko	111
International Meetings	113
Addresses of EB Members	117

Contents

L. Debnath

FRACTIONAL INTEGRAL AND FRACTIONAL
DIFFERENTIAL EQUATIONS IN FLUID MECHANICS 119

V. V. Anh, R. McVinish

COMPLETELY MONOTONE PROPERTY
OF FRACTIONAL GREEN FUNCTIONS 157

F. Al-Musallam

THE RANGE OF FINITE INTEGRAL TRANSFORMS
ARISING FROM n -th ORDER SINGULAR
SELF-ADJOINT DIFFERENTIAL OPERATORS 175

L. Beghin, E. Orsingher

THE TELEGRAPH PROCESS STOPPED
AT STABLE-DISTRIBUTED TIMES AND ITS CONNECTION
WITH THE FRACTIONAL TELEGRAPH EQUATION 187

I. Petras, L. Dorcak

FRACTIONAL-ORDER CONTROL SYSTEMS:
MODELLING AND SIMULATION 205

Addresses of EB Members 233

Contents

S. G. Samko, R. P. Cardoso SONINE INTEGRAL EQUATIONS OF THE FIRST KIND IN $L_p(0, b)$	235
A.V. Chechkin, R. Gorenflo, I.M. Sokolov, V. Yu. Gonchar DISTRIBUTED ORDER TIME FRACTIONAL DIFFUSION EQUATION	259
H.M. Srivastava, A.K. Mishra, M.K. Das A CLASS OF PARABOLIC STARLIKE FUNCTIONS DEFINED BY MEANS OF A CERTAIN FRACTIONAL DERIVATIVE OPERATOR	281
J. Paneva-Konovska COMPLETE SYSTEMS OF BESSEL FUNCTIONS OF FIRST KIND IN SPACES OF HOLOMORPHIC FUNCTIONS	299
A. Almeida INVERSION OF THE RIESZ POTENTIAL OPERATOR ON LEBESGUE SPACES WITH VARIABLE EXPONENT	311
International Meetings	
Second Announcement and Call for Papers for First IFAC Workshop on "FDA'04, Bordeaux, France"	329
Addresses of EB Members	331

Contents

Anniversary: 75th ANNIVERSARY of Professor P.L. BUTZER ...	333
Anniversary: 70th ANNIVERSARY of Professor G.F. ROACH	341
S. Samko	
HARDY INEQUALITY IN THE GENERALIZED LEBESGUE SPACES	355
A.A. Kilbas, M. Rivero, J.J. Trujillo	
EXISTENCE AND UNIQUENESS THEOREMS FOR DIFFERENTIAL EQUATIONS OF FRACTIONAL ORDER IN WEIGHTED SPACES OF CONTINUOUS FUNCTIONS	363
D. Przeworska-Rolewicz	
RICCATI TYPE EQUATIONS IN LEIBNIZ ALGEBRAS WITH LOGARITHMS	401
S. Samko	
HARDY-LITTLEWOOD-STEIN-WEISS INEQUALITY IN THE LEBESGUE SPACES WITH VARIABLE EXPONENT	421
F. Mainardi, G. Pagnini, R. Gorenflo	
MELLIN TRANSFORM AND SUBORDINATION LAWS IN FRACTIONAL DIFFUSION PROCESSES	441
V. Kokilashvili, A. Meskhi	
ON A TRACE INEQUALITY FOR ONE-SIDED POTENTIALS WITH MULTIPLE KERNELS	461
V.B. Shakhmurov, A.I. Zayed	
FRACTIONAL WIGNER DISTRIBUTION AND AMBIGUITY FUNCTIONS	473
P. Rusev	
CORRIGENDUM to my paper in: "FCAA", vol. 6, No 1 (2003) "A NOTE ON JONQUIÈRE POLYNOMIALS"	491
Addresses of EB Members	493

Contents

A.A. Al-Jarrah

L^p -ESTIMATES OF ROUGH INTEGRAL OPERATORS
WITH KERNELS INVOLVING BESSEL FUNCTIONS 1

B. Stankovic, T.M. Atanackovic

ON AN INEQUALITY ARISING IN FRACTIONAL
OSCILLATOR THEORY 11

L. Debnath, D.D. Bhatta

SOLUTIONS TO FEW LINEAR FRACTIONAL
INHOMOGENEOUS PARTIAL DIFFERENTIAL EQUATIONS
IN FLUID MECHANICS 21

N.B. Salem, A.O.A. Salem

SOBOLEV TYPE SPACES ASSOCIATED
WITH THE JACOBI-DUNKL OPERATOR 37

M.M. Meerschaert, J. Mortensen, H.-P. Scheffler

VECTOR GRÜN WALD FORMULA FOR
FRACTIONAL DERIVATIVES 61

Report on 3rd International Conference

"Analytic Methods of Analysis and Differential Equations"
(AMADE' 2003) – Minsk, Belarus, Sept. 4-9, 2003 83

Report on 4th International Symposium

'Transform Methods & Special Functions, Borovets' 2003"
(TMSF, Borovets' 2003) – Borovets, Bulgaria, Sept. 15-21, 2003 86

Contents of "FCAA"

Volume 1 (1998) – Volume 6 (2003) 89

Addresses of EB Members 117

Contents

R.S. Barbosa, J.A.Tenreiro Machado, I.M. Ferreira PID CONTROLLER TUNING USING FRACTIONAL CALCULUS CONCEPTS	119
R.K. Saxena, T.F. Nonnenmacher APPLICATION OF THE H -FUNCTION IN MARKOVIAN AND NON-MARKOVIAN CHAIN MODELS	135
V. Knopova ON SOME OPERATORS WITH COMPLEX-VALUED CONTINUOUS NEGATIVE DEFINITE SYMBOL WHICH ARE GENERATORS OF L_p -SUB-MARKOVIAN SEMIGROUPS	149
G. Dattoli, M. Migliorati, H.M. Srivastava A CLASS OF BESSEL SUMMATION FORMULAS AND ASSOCIATED OPERATIONAL METHODS	169
A.I. Kheyfits CLOSED-FORM REPRESENTATIONS OF THE LAMBERT W FUNCTION	177
K. Diethelm, M. Weilbeer A NUMERICAL APPROACH FOR JOULIN'S MODEL OF A POINT SOURCE INITIATED FLAME	191
M.A. Betilgiriev, D.N. Karasev, V.A. Nogin $L_p - L_q$ - ESTIMATES FOR SOME FRACTIONAL TYPE OPERATORS WITH OSCILLATING KERNELS	213
Addresses of EB Members	243

Contents

Anniversary: 70th ANNIVERSARY of Professor Ivan DIMOVSKI	245
Y. Ben Nakhi and S.L. Kalla	
ON SOME MIXTURE DISTRIBUTIONS	261
D. Przeworska-Rolewicz	
POWERS AND LOGARITHMS	283
A.A. Kilbas, S.A. Marzan	
CAUCHY PROBLEM FOR DIFFERENTIAL EQUATION WITH CAPUTO DERIVATIVE	297
Nguyen Xuan Thao, Vu Kim Tuan, Nguyen Minh Khoa	
A GENERALIZED CONVOLUTION WITH A WEIGHT FUNCTION FOR THE FOURIER COSINE AND SINE TRANSFORMS	323
Yu. Luchko	
OPERATIONAL RULES FOR A MIXED OPERATOR OF THE ERDÉLYI-KOBER TYPE	339
T. M. Atanackovic, B. Stankovic	
AN EXPANSION FORMULA FOR FRACTIONAL DERIVATIVES AND ITS APPLICATION	365

Contents

M. Jelassi, L.T. Rachdi	
ON THE RANGE OF THE FOURIER TRANSFORM ASSOCIATED WITH THE SPHERICAL MEAN OPERATOR	379
J. A. Tenreiro Machado, I. S. Jesus	
SUGGESTION FROM THE PAST?	403
N. Südland, G. Baumann	
ON THE MELLIN TRANSFORMS OF DIRAC'S DELTA FUNCTION, THE HAUSDORFF DIMENSION FUNCTION, AND THE THEOREM BY MELLIN	409
M. Assal, H. Ben Abdallah	
CAUCHY PROBLEM FOR DIFFERENTIAL EQUATION WITH CAPUTO DERIVATIVE	
N.K. Karapetyants[†], N. Samko	
WEIGHTED THEOREMS ON FRACTIONAL INTEGRALS IN THE GENERALIZED HÖLDER SPACES VIA INDICES m_ω AND M_ω	
M. D. Ortigueira, F. Coito	
FROM DIFFERENCES TO DERIVATIVES	
In Memoriam: Prof. John Boersma (1937 – 2004)	
OBITUARY	
In Memoriam: Prof. Nikolai Karapetyants (1942 – 2005)	
OBITUARY by Ya. Erusalimskii, A. Kilbas, V. Kokilashvili, V. Rabinovich, V. Kokilashvili, S. Samko	
Meetings: AMADE'2006, Second Announcement	
Addresses of EB Members	

Contents

Anniversary: 80th ANNIVERSARY of Acad. B. STANKOVIC, Part 1 (pp. 1 - 66)	1
F. Mainardi, R. Gorenflo, A. Vivoli RENEWAL PROCESSES OF MITTAG-LEFFLER AND WRIGHT TYPE	7
S. Samko BEST CONSTANT IN THE WEIGHTED HARDY INEQUALITY: THE SPATIAL AND SPHERICAL VERSION	39
I. Schäfer, S. Kempfle, B. Nolte LINEAR FRACTIONAL PDE, UNIQUENESS OF GLOBAL SOLUTIONS	53
P. Rusev A NOTE ON A CLASSICAL GENERATING FUNCTION FOR THE JACOBI POLYNOMIALS	63
<hr/>	
New Book: by Anatolii A. Kilbas and Megumi Saigo, “ <i>H - TRANSFORMS. Theory and Applications</i> ”, CRC Press, 2004 ...	67
New Book: by George M. Zaslavsky, “ <i>Hamiltonian Chaos and Fractional Dynamics</i> ”, Oxford Univ. Press, 2004	69
Meetings: “International Symposium on Analytic Function Theory, Fractional Calculus and Their Applications”, in honour of 65th Birth Anniversary of Prof. H.M. Srivastava, August 2005	71
Corrigenda: Correction to name of R.K. Saxena, in paper: “Application of the <i>H</i> -function in ...” in <i>FCAA</i> 7 , No 2 (2004), 133-148, by R. K. Saxena and Theo F. Nonnenmacher	72
S. Umarov, R. Gorenflo ON MULTI-DIMENSIONAL RANDOM WALK MODELS APPROXIMATING SYMMETRIC SPACE-FRACTIONAL DIFFUSION PROCESSES	73

Contents

Anniversary: 80th ANNIVERSARY of Acad. B. STANKOVIC, Part 2 (Collection of papers by Guest-Editor S. Samko)	89
N. Jacob, V. Knopova FRACTIONAL DERIVATIVES AND FRACTIONAL POWERS AS TOOLS IN UNDERSTANDING WENTZELL BOUNDARY VALUE PROBLEMS FOR PSEUDO-DIFFERENTIAL OPERATORS GENERATING MARKOV PROCESSES	91
A.A. Kilbas FRACTIONAL CALCULUS OF THE GENERALIZED WRIGHT FUNCTION	113
H.J. Seybold, R. Hilfer NUMERICAL RESULTS FOR THE GENERALIZED MITTAG-LEFFLER FUNCTION	127
R.K. Saxena, M. Saigo CERTAIN PROPERTIES OF FRACTIONAL CALCULUS OPERATORS ASSOCIATED WITH GENERALIZED MITTAG-LEFFLER FUNCTION	141
A.N. Karapetyants, D.N. Karasev, V.A. Nogin $L_P \rightarrow L_Q$ -ESTIMATES FOR THE FRACTIONAL ACOUSTIC POTENTIALS AND SOME RELATED OPERATORS	155
R. Gorenflo, E. A. Abdel-Rehim DISCRETE MODELS OF TIME-FRACTIONAL DIFFUSION IN A POTENTIAL WELL	173
C. Martínez, M. Sanz, A. Redondo FRACTIONAL POWERS OF ALMOST NON-NEGATIVE OPERATORS	201
Addresses of the EB Members	231

Contents

A. Al-Salman

ROUGH MAXIMAL OSCILLATORY SINGULAR
INTEGRAL OPERATORS 233

M. Bezzarga, Kh. Kefi

ON A SINGULAR VALUE PROBLEM FOR
THE FRACTIONAL LAPLACIAN ON THE EXTERIOR
OF THE UNIT BALL 247

J.D. Griffiths, G.M. Leonenko, J.E. Williams

GENERALIZATION OF THE MODIFIED BESSEL
FUNCTION AND ITS GENERATING FUNCTION 267

A. Khelifi

ASYMPTOTIC PROPERTY OF EIGENVALUES
AND EIGENFUNCTIONS OF THE LAPLACE OPERATOR
IN DOMAIN WITH A PERTURBED BOUNDARY 277

L. Kamoun

AN $L^P - L^Q$ -VERSION OF MORGAN'S THEOREM
ASSOCIATED WITH
PARTIAL DIFFERENTIAL OPERATORS 299

S.L. Kalla, R.K. Yadav, S.D. Purohit

ON THE RIEMANN-LIOUVILLE FRACTIONAL
 q -INTEGRAL OPERATOR INVOLVING A BASIC
ANALOGUE OF FOX H-FUNCTION 313

M. Ilic, F. Liu, I. Turner, V. Anh

NUMERICAL APPROXIMATION OF
A FRACTIONAL-IN-SPACE DIFFUSION EQUATION, I 323

Contents

H. Wysocki, M. Zellma

AN ABSTRACT SECOND KIND FREDHOLM
INTEGRAL EQUATION WITH DEGENERATED KERNEL 343

P.J. Miana

CONVOLUTION PRODUCTS IN $L^1(\mathbb{R}^+)$,
INTEGRAL TRANSFORMS AND FRACTIONAL CALCULUS 361

B. Baeumer, S. Kurita, M.M. Meerschaert

INHOMOGENEOUS FRACTIONAL
DIFFUSION EQUATIONS 371

Anniversary: 65th ANNIVERSARY of Prof. H.M. Srivastava 387

H. Rafeiro, S. Samko

ON MULTIDIMENSIONAL ANALOGUE OF MARCHAUD
FORMULA FOR FRACTIONAL RIESZ-TYPE DERIVATIVES
IN DOMAINS IN \mathbb{R}^n 393

A.A. Kilbas, J.J. Trujillo, A.A. Voroshilov

CAUCHY-TYPE PROBLEM FOR DIFFUSION-WAVE
EQUATION WITH THE RIEMANN-LIOUVILLE
PARTIAL DERIVATIVE 403

B. E. Gogovcheva, L. Boyadjiev

FRACTIONAL EXTENSIONS OF JACOBI POLYNOMIALS
AND GAUSS HYPERGEOMETRIC FUNCTION 431

Anniversary: 60th ANNIVERSARY of Prof. O.I. Marichev 439

Contents

E.M. Saydamatov

WELL-POSEDNESS OF THE CAUCHY PROBLEM
FOR INHOMOGENEOUS TIME-FRACTIONAL
PSEUDO-DIFFERENTIAL EQUATIONS 1

V.S. Guliyev, J.J. Hasanov

SOBOLEV-MORREY TYPE INEQUALITY FOR RIESZ
POTENTIALS, ASSOCIATED WITH THE LAPLACE-BESSEL
DIFFERENTIAL OPERATOR 17

A.A. Rousan, N.Y. Ayoub, F.Y. Alzoubi, H. Khateeb,

M. Al-Qadi, M.K. Hasan(Qaseer), B.A. Albiss
A FRACTIONAL $LC - RC$ CIRCUIT 33

C. Abdelkefi, M. Sifi

ON THE UNIFORM CONVERGENCE OF PARTIAL DUNKL
INTEGRALS IN BESOV-DUNKL SPACES 43

S. Umarov, E. Saydamatov

A FRACTIONAL ANALOG OF THE DUHAMEL PRINCIPLE 57

NEW BOOK: by A. Kilbas, H.M. Srivastava and J.J. Trujillo

"THEORY AND APPLICATIONS OF FRACTIONAL
DIFFERENTIAL EQUATIONS",
Elsevier, North-Holland Mathematics Studies, **204** 71

Addresses of the EB Members 77

Contents

Anniversary: 70th ANNIVERSARY of Prof. Megumi SAIGO	79
I.H. Dimovski, K.A. Skórnik OPERATIONAL CALCULI FOR THE EULER OPERATOR	89
N. Virchenko ON THE GENERALIZED CONFLUENT HYPERGEOMETRIC FUNCTION AND ITS APPLICATION	101
A.A. Kilbas, R.K. Saxena, J.J. Trujillo KRÄTZEL FUNCTION AS A FUNCTION OF HYPERGEOMETRIC TYPE	109
S. S. Eker, H. Ö. Güney, Sh. Owa ON INTEGRAL MEANS FOR FRACTIONAL CALCULUS OPERATORS OF MULTIVALENT FUNCTIONS	133
J.E. Pečarić, M. Rodić Lipanović, H.M. Srivastava SOME MEAN-VALUE THEOREMS OF THE CAUCHY TYPE	143
V. Kiryakova ON TWO SAIGO'S FRACTIONAL INTEGRAL OPERATORS IN THE CLASS OF UNIVALENT FUNCTIONS	159
Report on the Book: by Anatolii A. Kilbas and Megumi Saigo, “ <i>H-TRANSFORMS. THEORY AND APPLICATIONS</i> ”, CRC Press, 2004	177
Addresses of the EB Members	179

Contents

Anniversary: 60th ANNIVERSARY of Prof. Khalifa TRIMÈCHE 181

I. Dimovski, V. Hristov, M. Sifi
COMMUTANTS OF THE DUNKL OPERATORS IN $C(\mathbb{R})$ 195

N. Ben Salem, A. Ould Ahmed Salemy and B. Selmi
MEAN-PERIODIC FUNCTIONS ASSOCIATED
WITH THE JACOBI-DUNKL OPERATOR ON \mathbb{R} 215

M. Assal, R. Bouguila
GENERALIZED SOBOLEV SPACES OF EXPONENTIAL
TYPE ASSOCIATED WITH THE DUNKL OPERATORS 237

H. Mejjaoli
AN ANALOGUE OF BEURLING-HÖRMANDER'S
THEOREM FOR THE DUNKL-BESSEL TRANSFORM 247

H. Mabrouk
q-HEAT OPERATOR AND q-POISSON'S OPERATOR 265

A. Gasmi, M. Sifi, F. Soltani
HERZ-TYPE HARDY SPACES FOR THE DUNKL
OPERATOR ON THE REAL LINE 287

V.S. Guliyev, M. Assal
ON MAXIMAL FUNCTION ON
THE LAGUERRE HYPERGROUP 307

New Book: by Peter Popivanov, "GEOMETRICAL METHODS
FOR SOLVING OF FULLY NONLINEAR
PARTIAL DIFFERENTIAL EQUATIONS", UBM' 2006 319

Contents

A. K. Mishra, P. Gochhayat APPLICATIONS OF THE OWA-SRIVASTAVA OPERATOR TO THE CLASS OF k -UNIFORMLY CONVEX FUNCTIONS	323
M. Ilic, F. Liu, I. Turner, V. Anh NUMERICAL APPROXIMATION OF A FRACTIONAL-IN-SPACE DIFFUSION EQUATION (II) – WITH NONHOMOGENEOUS BOUNDARY CONDITIONS	333
E. Andries, S. Umarov, S. Steinberg MONTE CARLO RANDOM WALK SIMULATIONS BASED ON DISTRIBUTED ORDER DIFFERENTIAL EQUATIONS WITH APPLICATIONS TO CELL BIOLOGY	351
M. Haddad HANKEL TRANSFORM IN QUANTUM CALCULUS AND APPLICATIONS	371
Corrigendum: Errata in the paper: “ON INTEGRAL MEANS FOR FRACTIONAL CALCULUS OPERATORS ...”, in <i>FCAA</i> 9 , No 2 (2006), pp. 133-142, by S. S. Eker, H. Ö. Güney, Sh. Owa	385
Meetings: FDA'2006: Report, Program of the Workshop	387
Meetings: AMADE'2006: Report	398
Meetings: ICHAA'2006: Report	401
Meetings: ASME'2007, Announcement: "Classic and Fractional Dynamics on Continuous and Discontinuous Vector Fields", Las Vegas, September 2007	405
IMI - BAS: Periodicals	406
Addresses of the EB Members	407

Contents

L. Diening, S. Samko HARDY INEQUALITY IN VARIABLE EXPONENT LEBESGUE SPACES	1
H. Mejjaoli, K. Trimèche SPECTRUM OF FUNCTIONS FOR THE DUNKL TRANSFORM ON \mathbb{R}^d	19
M.S. Ben Hammouda, A. Nemri POLYNOMIAL EXPANSIONS FOR SOLUTIONS OF HIGHER-ORDER BESSEL HEAT EQUATION IN QUANTUM CALCULUS	39
J. Paneva-Konovska THEOREMS ON THE CONVERGENCE OF SERIES IN GENERALIZED LOMMEL-WRIGHT FUNCTIONS	59
L. Boyadjiev SOME FRACTIONAL EXTENSIONS OF THE TEMPERATURE FIELD PROBLEM IN OIL STRATA	75
Meetings: "FDA'2008", Fractional Differentiation and its Applications, Ankara (Turkey), 5 - 7 November 2008 Invitation	99
News: Version 6.0 of <i>MATHEMATICA</i> Wolfram Research, Inc. - Press Release	101
New Book: INTEGRAL TRANSFORMS AND THEIR APPLICATIONS (2nd Ed.), by L. Debnath and D. Bhatta	105
New Book: THE ART OF MODELING IN SCIENCE AND ENGINEERING WITH <i>MATHEMATICA</i> (2nd Ed.), by D. Basmadjian and R. Farnood	107
Addresses of the EB Members	109

Contents

Yu.A. Rossikhin, M.V. Shitikova COMPARATIVE ANALYSIS OF VISCOELASTIC MODELS INVOLVING FRACTIONAL DERIVATIVES OF DIFFERENT ORDERS	111
R. Bagley ON THE EQUIVALENCE OF THE RIEMANN-LIOUVILLE AND THE CAPUTO FRACTIONAL ORDER DERIVATIVES IN MODELING OF LINEAR VISCOELASTIC MATERIALS	123
Ž. Tomovski INTEGRAL REPRESENTATIONS OF GENERALIZED MATHIEU SERIES VIA MITTAG-LEFFLER TYPE FUNCTIONS	127
T.M. Atanackovic, B. Stankovic ON A DIFFERENTIAL EQUATION WITH LEFT AND RIGHT FRACTIONAL DERIVATIVES	139
K. Diethelm SMOOTHNESS PROPERTIES OF SOLUTIONS OF CAPUTO- TYPE FRACTIONAL DIFFERENTIAL EQUATIONS	151
M. Yamada, T. Matsuura, S. Saitoh REPRESENTATIONS OF INVERSE FUNCTIONS BY THE INTEGRAL TRANSFORM WITH THE SIGN KERNEL	161
M. Zamani, M. Karimi-Ghartemani, N. Sadati <i>FOPID</i> CONTROLLER DESIGN FOR ROBUST PERFORMANCE USING PARTICLE SWARM OPTIMIZATION	169
S.D. Purohit, S.L. Kalla ON q -LAPLACE TRANSFORMS OF THE q -BESSEL FUNCTIONS	189
Meetings: "MIA 2008 Conference", In honour of Prof. J. Pečarić, June 8-14, 2008, Split-Croatia	197
Meetings 2007 – 2008: Letter by J.A. Tenreiro Machado	199
Meetings: "FDA'2008", Fractional Differentiation and its Applications, November 5-7, 2008, Ankara-Turkey; News: Awards Announced ..	200

Contents

Anniversary: 40 YEARS OF CAPUTO DERIVATIVE AND 80th ANNIVERSARY of Prof. Michele CAPUTO:	201
Congratulating addresses, Foreword (by F. Mainardi)	
CV and Selected Publications	209
 A.D. Freed, K. Diethelm	
CAPUTO DERIVATIVES IN VISCOELASTICITY: A NON-LINEAR FINITE-DEFORMATION THEORY FOR TISSUE	219
 Y. Luchko, J.J. Trujillo	
CAPUTO-TYPE MODIFICATION OF THE ERDÉLYI-KOBER FRACTIONAL DERIVATIVE	249
 F. Mainardi, R. Gorenflo	
TIME-FRACTIONAL DERIVATIVES IN RELAXATION PROCESSES: A TUTORIAL SURVEY	269
 M. Caputo, F. Mainardi	
A NEW DISSIPATION MODEL BASED ON MEMORY MECHANISM: REPRINTED PAPER from the journal <i>"Pure and Applied Geophysics (PAGEOPH)"</i> , vol. 91 , No 1 (1971), pp. 134-147	309
 International Conference: "APPCOM'08"	
Approximation & Computation (Niš, Serbia, Aug. 25-29, 2008) Dedicated to 60th Anniversary of Prof. Gradimir Milovanović	325
 Web Project: FRACALMO	
(FRActional CALculus MOdelling), Updated	326

Contents

A. Fitouhi, N. Bettaibi, W. Binous INVERSION FORMULAS FOR THE q -RIEMANN-LIOUVILLE AND q -WEYL TRANSFORMS USING WAVELETS	327
S.K. Sunanda, C. Nahak, S. Nanda WITHDRAWN by the Managing Editor	343
P.M. Rajković, S.D. Marinković, M.S. Stanković ON q -ANALOGUES OF CAPUTO DERIVATIVE AND MITTAG-LEFFLER FUNCTION	359
J. L. Da Silva, M. Erraoui, H. Ouerdiane GENERALIZED FRACTIONAL EVOLUTION EQUATION	375
H. Rafeiro, S. Samko ON A CLASS OF FRACTIONAL TYPE INTEGRAL EQUATIONS IN VARIABLE EXPONENT SPACES	399
60th Years Anniversary: INSTITUTE OF MATHEMATICS AND INFORMATICS – BULGARIAN ACADEMY OF SCIENCES	422

Contents

Anniversary: TEN YEARS OF “FCAA” JOURNAL	1
M. Caputo , REPRINTED PAPER from the journal “ <i>Geophys. J. R. Astr. Soc.</i> ”, vol. 13 , Issue 5 (1967), pp. 529-539: LINEAR MODELS OF DISSIPATION WHOSE Q IS ALMOST FREQUENCY INDEPENDENT – II	3
L.P. Castro, D. Kapanadze PSEUDO-DIFFERENTIAL OPERATORS IN A WAVE DIFFRACTION PROBLEM WITH IMPEDANCE CONDITIONS ...	15
J.K. Prajapat INCLUSION PROPERTIES FOR CERTAIN CLASSES OF ANALYTIC FUNCTIONS INVOLVING A FAMILY OF FRACTIONAL INTEGRAL OPERATORS	27
M. Benchohra, J. Henderson, S.K. Ntouyas, A. Ouahab EXISTENCE RESULTS FOR FRACTIONAL FUNCTIONAL DIFFERENTIAL INCLUSIONS WITH INFINITE DELAY AND APPLICATIONS TO CONTROL THEORY	35
Yu. Luchko ALGORITHMS FOR EVALUATION OF THE WRIGHT FUNCTION FOR THE REAL ARGUMENTS’ VALUES	57
A.D. Gadjiev, V.S. Guliyev THE STEIN-WEISS TYPE INEQUALITY FOR FRACTIONAL INTEGRALS, ASSOCIATED WITH THE LAPLACE-BESSEL DIFFERENTIAL OPERATOR	77
N.M. Fonseca Ferreira, F.B. Duarte, M.F.M. Lima, M.G. Marcos, J.A. Tenreiro Machado APPLICATION OF FRACTIONAL CALCULUS IN THE DYNAMICAL ANALYSIS AND CONTROL OF MECHANICAL MANIPULATORS..	91
Meetings: ”Meetings in 2008” and ”FDA’2008”, Fractional Differen- tiation and its Applications, Ankara (Turkey), 5-7 Nov. 2008 ...	114-116
Addresses of the EB Members	117-118

Contents

Anniversary: TEN YEARS OF "FCAA" JOURNAL	1
M. Caputo , REPRINTED PAPER from the journal <i>"Geophys. J. R. Astr. Soc."</i> , vol. 13 , Issue 5 (1967), pp. 529-539: LINEAR MODELS OF DISSIPATION WHOSE Q IS ALMOST FREQUENCY INDEPENDENT – II	3
L.P. Castro, D. Kapanadze PSEUDO-DIFFERENTIAL OPERATORS IN A WAVE DIFFRACTION PROBLEM WITH IMPEDANCE CONDITIONS ...	15
J.K. Prajapat INCLUSION PROPERTIES FOR CERTAIN CLASSES OF ANALYTIC FUNCTIONS INVOLVING A FAMILY OF FRACTIONAL INTEGRAL OPERATORS	27
M. Benchohra, J. Henderson, S.K. Ntouyas, A. Ouahab EXISTENCE RESULTS FOR FRACTIONAL FUNCTIONAL DIFFERENTIAL INCLUSIONS WITH INFINITE DELAY AND APPLICATIONS TO CONTROL THEORY	35
Yu. Luchko ALGORITHMS FOR EVALUATION OF THE WRIGHT FUNCTION FOR THE REAL ARGUMENTS' VALUES	57
A.D. Gadjiev, V.S. Guliyev THE STEIN-WEISS TYPE INEQUALITY FOR FRACTIONAL INTEGRALS, ASSOCIATED WITH THE LAPLACE-BESSEL DIFFERENTIAL OPERATOR	77
N.M. Fonseca Ferreira, F.B. Duarte, M.F.M. Lima, M.G. Marcos, J.A. Tenreiro Machado APPLICATION OF FRACTIONAL CALCULUS IN THE DYNAMICAL ANALYSIS AND CONTROL OF MECHANICAL MANIPULATORS..	91
Meetings: "Meetings in 2008" and "FDA'2008", Fractional Differen- tiation and its Applications, Ankara (Turkey), 5-7 Nov. 2008 ...	114-116
Addresses of the EB Members	117-118

Contents

Anniversary: 70th ANNIVERSARY of Prof. Shyam L. Kalla:	119
R.K. Yadav, S.D. Purohit, S.L. Kalla ON GENERALIZED WEYL FRACTIONAL q -INTEGRAL OPERATOR INVOLVING GENERALIZED BASIC HYPERGEOMETRIC FUNCTIONS	129
B.T. Krishna, K.V.V.S. Reddy DESIGN OF FRACTIONAL ORDER DIGITAL DIFFERENTIATORS AND INTEGRATORS USING INDIRECT DISCRETIZATION	143
Nguyen Xuan Thao, Vu Kim Tuan, Nguyen Thanh Hong GENERALIZED CONVOLUTION TRANSFORMS AND TOEPLITZ PLUS HANKEL INTEGRAL EQUATIONS	153
N.A. Virchenko, O.V. Rumiantseva ON THE GENERALIZED ASSOCIATED LEGENDRE FUNCTIONS	175
M. Sharma FRACTIONAL INTEGRATION AND FRACTIONAL DIFFERENTIATION OF THE M-SERIES	187
V. Daftardar-Gejji, S. Bhalekar SOLVING FRACTIONAL DIFFUSION-WAVE EQUATIONS USING A NEW ITERATIVE METHOD	193
V. Kiryakova A BRIEF STORY ABOUT THE OPERATORS OF THE GENERALIZED FRACTIONAL CALCULUS	203
Report on: "The Wolfram Functions Site", functions.wolfram.com "	186
Announce for: Symposium on "Fractional Calculus and Applications" at "NSC'08", Porto, July 2008	192
Report on: "AMS 2008 Spring Southeastern Meeting: Baton Rouge, LA, March 28-30, 2008"	221
Announce for: "Fourth Conference on Numerical Analysis and Applications, June 16-20, 2008, Lozenetz, Bulgaria"	225

Contents

Anniversaries:

85th ANNIVERSARY of Prof. Blagoj S. Popov 227

80th ANNIVERSARY of Prof. Paul L. Butzer 230

75th ANNIVERSARY of Prof. Gary F. Roach 234

I.S. Jesus, J.A. Tenreiro Machado

AN EVOLUTIONARY APPROACH FOR THE SYNTHESIS
OF FRACTIONAL POTENTIALS 237

M. Assal

GENERALIZED WAVE EQUATIONS IN THE SETTING
OF BESSEL-KINGMAN HYPERGROUPS 249

K. Diethelm

ON THE SEPARATION OF SOLUTIONS
OF FRACTIONAL DIFFERENTIAL EQUATIONS 259

H. Rafeiro, S. Samko

APPROXIMATIVE METHOD FOR THE INVERSION
OF THE RIESZ POTENTIAL OPERATOR
IN VARIABLE LEBESGUE SPACES 269

K.M. Furati, M. Kirane

NECESSARY CONDITIONS FOR THE EXISTENCE OF
GLOBAL SOLUTIONS TO SYSTEMS OF
FRACTIONAL DIFFERENTIAL EQUATIONS 281

V. Kiryakova

TRANSMUTATION METHOD FOR SOLVING
HYPER-BESSEL DIFFERENTIAL EQUATIONS BASED ON
THE POISSON-DIMOVSKI TRANSFORMATION 299

F. Merrikh-Bayat, M. Karimi-Ghartemani

SOME PROPERTIES OF THREE-TERM
FRACTIONAL ORDER SYSTEM 317

Y.Z. Povstenko

SIGNALING PROBLEM FOR TIME-FRACTIONAL
DIFFUSION-WAVE EQUATION IN A HALF-PLANE 329

T. Kaczorek

REALIZATION PROBLEM FOR POSITIVE FRACTIONAL
HYBRID 2D LINEAR SYSTEMS 353

Contents

Anniversary:

60th ANNIVERSARY of Prof. Anatoly Kilbas 369

S. Samko

ANATOLY KILBAS's 60th BIRTHDAY: CONGRATULATION 370

S. Rogozin

PERSONAL LIFE OF A SCIENTIST:

TO 60th BIRTHDAY OF PROFESSOR ANATOLY KILBAS 373

List of the main publications

of Professor Anatoly Kilbas 378

L. Ephremidze, V. Kokilashvili, S. Samko

FRACTIONAL, MAXIMAL AND SINGULAR OPERATORS

IN VARIABLE EXPONENT LORENTZ SPACES 407

A.N. Karapetyants

ON FUNCTIONS ARISING AS POTENTIALS

WITH OSCILLATING SYMBOLS 421

L. Rodríguez-Germá, J.J. Trujillo,

L. Vázquez, M. Pilar Velasco

FRACTIONAL CALCULUS FRAMEWORK TO AVOID

SINGULARITIES OF DIFFERENTIAL EQUATIONS 431

F. Mainardi, G. Pagnini

MELLIN-BARNES INTEGRALS FOR STABLE

DISTRIBUTIONS AND THEIR CONVOLUTIONS 443

Yu.F. Luchko, H. Matrínez, J.J. Trujillo

FRACTIONAL FOURIER TRANSFORM

AND SOME OF ITS APPLICATIONS 457

A.A. Kilbas, A. Kattuveetil

REPRESENTATIONS OF DIRICHLET AVERAGES OF

GENERALIZED MITTAG-LEFFLER FUNCTION VIA

FRACTIONAL INTEGRALS AND SPECIAL FUNCTIONS 471

New Book: by Yury A. Brychkov,

“Handbook of Special Functions: Derivatives, Integrals,

Series and Other Formulas”, CRC Press 493

Contents

K. Haouam, M. Sfaxi

NONEXISTENCE RESULTS OF SOLUTIONS OF SEMILINEAR
DIFFERENTIAL INEQUALITIES WITH TEMPERAL
FRACTIONAL DERIVATIVE ON THE HEINSENBERG GROUP ... 1

E. Ait Dads, M. Benchohra, S. Hamani

IMPULSIVE FRACTIONAL DIFFERENTIAL INCLUSIONS
INVOLVING THE CAPUTO FRACTIONAL DERIVATIVE 15

E.V. Guliyev

ON LIMITING CASE OF THE STEIN-WEISS TYPE
INEQUALITY FOR THE B -RIESZ POTENTIALS 39

F. Cipriano, H. Ouerdiane, R. Vilela Mendes

STOCHASTIC SOLUTION OF A KPP-TYPE NONLINEAR
FRACTIONAL DIFFERENTIAL EQUATION 47

M.I. Gil'

BOUNDS FOR FRACTIONAL POWERS OF OPERATORS IN A
HILBERT SPACE & CONSTANTS IN MOMENT INEQUALITIES... 57

M.A. Darwish, J. Henderson

EXISTENCE AND ASYMPTOTIC STABILITY
OF SOLUTIONS OF A PERTURBED QUADRATIC
FRACTIONAL INTEGRAL EQUATION 71

D. Nemzer

A NOTE ON MULTIPLIERS
FOR INTEGRABLE BOEHMIANS 87

Ž. Tomovski

ON HANKEL TRANSFORM OF GENERALIZED
MATHIEU SERIES 97

R.K. Saxena

A REMARK ON A PAPER ON M -SERIES 109

Meetings: International Russian-Abkhazian Symposium,
Nalchik-Elbrus (Kabardino-Balkarian Republic), 17-22 May 2009 111

Meetings: Report on 3rd IFAC Workshop "FDA'08",
Ankara (Turkey), 5-7 November 2008 113

Contents

O. Parasyuk [‡], N. Virchenko

BRIEF SURVEY OF THE MATHEMATICAL LEGACY
OF ACADEMICIAN M. KRAVCHUK 115

A.N. Kochubei

FRACTIONAL DIFFERENTIAL EQUATIONS:
 α -ENTIRE SOLUTIONS,
REGULAR AND IRREGULAR SINGULARITIES 135

Z.S.I. Mansour

LINEAR SEQUENTIAL q -DIFFERENCE EQUATIONS
OF FRACTIONAL ORDER 159

C.A. Roberts, W.E. Olmstead

BLOW-UP IN A SUBDIFFUSIVE MEDIUM
OF INFINITE EXTENT 179

Yong Zhou

EXISTENCE AND UNIQUENESS OF SOLUTIONS
FOR A SYSTEM OF FRACTIONAL
DIFFERENTIAL EQUATIONS 195

A.A. Kilbas, N.V. Zhukovskaya

EULER-TYPE NON-HOMOGENEOUS DIFFERENTIAL
EQUATIONS WITH THREE
LIOUVILLE FRACTIONAL DERIVATIVES 205

Meetings in 2009: Letter by J.A. Tenreiro Machado 235

Contents

Seema S. Nair	
PATHWAY FRACTIONAL INTEGRATION OPERATOR	237
B.T. Giang, N.M. Tuan	
GENERALIZED CONVOLUTIONS FOR THE INTEGRAL TRANSFORMS OF FOURIER TYPE AND APPLICATIONS	253
I. Petráš	
STABILITY OF FRACTIONAL-ORDER SYSTEMS WITH RATIONAL ORDERS: A SURVEY	269
R. Hilfer, Y. Luchko, Ž. Tomovski	
OPERATIONAL METHOD FOR THE SOLUTION OF FRACTIONAL DIFFERENTIAL EQUATIONS WITH GENERALIZED RIEMANN-LIOUVILLE FRACTIONAL DERIVATIVES	299
H. Mejjaoli, N. Sraieb	
GABOR TRANSFORM IN QUANTUM CALCULUS AND APPLICATIONS	319
R.K. Saxena	
IN MEMORIUM OF CHARLES FOX	337
New Books: V. V. Uchaikin	
METHOD OF FRACTIONAL DERIVATIVES (In Russian)	345
Announce: O. Marichev	
WOLFRAM ALPHA – Computational Knowledge Engine	348
Meetings in 2009: M. Duarte Ortigueira, J.A. Tenreiro Machado Symp. on Fractional Signals and Systems, Lisbon, 4-6 Nov. 2009 ...	351
Meetings in 2010: Changpin Li, YangQuan Chen, Wen Chen Mini-Symp. "Fractional Dynamics and Control" at 3rd Intern. Conf. on Dynamics, Vibration and Control, Hangzhou, 12-14 May 2010	353
Meetings in 2010: S. Sivasundaram // ICNPAA 2010 World Congress, 8th Intern. Conf. on Mathematical Problems in Engineering, Aerospace and Sciences, Brazil, 30 June-3 July 2010	355
Editorial Board Addresses	356

F. Nouri, S. Bouaziz, N. Bettaibi	
ON A PALEY-WIENER THEOREM AND A q -SAMPLING	
FORMULA FOR THE q -DUNKL TRANSFORM	359
M. Talebpour, Y.M. Roshan, S.Mohseni	
DEVELOPING ROBUST FFOPID CONTROLLERS BASED	
ON FUZZY SET POINT WEIGHTING ALGORITHM	373
T.J. Connolly, J.A. Contreras	
BOND GRAPH PRIMITIVES FOR MODELING SYSTEMS	
WITH FRACTIONAL DIFFERENTIAL EQUATIONS	391
Yu. Luchko	
BVPs FOR THE GENERALIZED TIME-FRACTIONAL DIFFUSION	
EQUATION OF DISTRIBUTED ORDER	409
T. Kopaliani	
ON THE HARDY INEQUALITY ON $L_p(\cdot)(R^n)$ SPACES	423
A. Cernea	
ON THE EXISTENCE OF SOLUTIONS FOR FRACTIONAL DIFFE-	
RENTIAL INCLUSIONS WITH BOUNDARY CONDITIONS	433
I.H. Dimovski	
THE COMMUTANT OF RIEMANN-LIOUVILLE OPERATOR	
OF FRACTIONAL INTEGRATION	443
M. Sharma, R. Jain (Short Note)	
A NOTE ON A GENERALIZED M-SERIES	
AS A SPECIAL FUNCTION OF FRACTIONAL CALCULUS	449
U.K. Saha, K.K. Arora, A.K. Arora (Short Note)	
ON THE RELATIONSHIPS OF THE R -FUNCTION	
OF LORENZO AND HARTLEY WITH OTHER SFs of FC	453
ANNIVERSARIES:	459
Prof. Yury A. Brychkov, 65th Anniversary	460
Prof. Mourad E.H. Ismail, 65th Anniversary	466
Prof. Ivan H. Dimovski, 75th Anniversary	474
MEETINGS in 2010, Announces	477
– Report on 5th AMADE-2009: Minsk, Belarus, Sept. 2009;	
by Gaishun, Dubatovskaya, Kilbas, Rogosin, Zhuravkov	477
– AUS-ICMS'10: American Univ. Sharjah, UAE, March 2010	479
– Conf. to Acad. M. Kravchuk: Kiev, Ukraine, May 2010	481
– Constr. Function Theory'10: Sozopol, Bulgaria, June 2010 ...	482
– Geometric Function Theory and Applications'2010: Sofia,	
Bulgaria, August 2010	483
– Fract. Diff. and Applications'10: Badajoz, Spain, Oct. 2010 ..	484

Contents

FCAA, Vol. 13, No 1 (2010)

A. Gil, S. Samko

ON A HYPERSINGULAR EQUATION OF A PROBLEM,
FOR A CRACK IN ELASTIC MEDIA 1

A.L. Soubhia, R.F. Camargo, E.C. de Oliveira, J. Vaz Jr.

THEOREM FOR SERIES IN THREE-PARAMETER
MITTAG-LEFFLER FUNCTION 9

M.N. Stojanović

WELL-POSEDNESS OF DIFFUSION-WAVE PROBLEM
WITH ARBITRARY FINITE NUMBER OF TIME
FRACTIONAL DERIVATIVES IN SOBOLEV SPACES H^s 21

E. Ournycheva, B. Rubin

ON Y. NIEVERGELT'S INVERSION FORMULA
FOR THE RADON TRANSFORM 43

Y. Nikolova, L. Boyadjiev

INTEGRAL TRANSFORMS METHOD TO SOLVE
A TIME-SPACE FRACTIONAL DIFFUSION EQUATION 57

A.A. Kilbas, O.A. Repin

AN ANALOG OF THE TRICOMI PROBLEM
FOR A MIXED TYPE EQUATION
WITH A PARTIAL FRACTIONAL DERIVATIVE 69

P. Rusev

HERMITE POLYNOMIALS AND THE
ZERO-DISTRIBUTION OF RIEMANN'S ζ -FUNCTION 85

MEETINGS in 2010, Announces:

2nd "AMiTaNS" Conf., Sozopol, Bulgaria, June 21-16 68

"HART", Lisbon, Portugal, June 21-25 96

"GFTA'10", Sofia, Bulgaria, August 27-31 97

"FDA'10", Badajoz, Spain, October 18-20 99

NEW BOOK: R. Caponetto, G. Dongola, L. Fortuna, I. Petráš,
Fractional Order Systems (Modeling and Control Applications) .. 101

Contents of Volumes 11 and 12 (2008, 2009) 103-110

Contents

FCAA, Vol. 13, No 2 (2010)

Anniversary:

75th ANNIVERSARY of Prof. A.M. MATHAI 111

A.M. Mathai

SOME PROPERTIES OF MITTAG-LEFFLER FUNCTIONS
AND MATRIX-VARIATE ANALOGUES:

A STATISTICAL PERSPECTIVE 113

H. Haubold, D. Kumar, S.S. Nair, D.P. Joseph

SPECIAL FUNCTIONS AND PATHWAYS
FOR PROBLEMS IN ASTROPHYSICS:

AN ESSAY IN HONOR OF A.M. MATHAI 133

A.A. Kilbas[†], N. Sebastian

FRACTIONAL INTEGRATION OF THE PRODUCT
OF BESSEL FUNCTIONS OF THE FIRST KIND 159

R.K. Saxena, R. Saxena, S.L. Kalla

SOLUTION OF SPACE-TIME FRACTIONAL
SCHRÖDINGER EQUATION OCCURRING

IN QUANTUM MECHANICS 177

M. Garg, P. Manohar

NUMERICAL SOLUTION OF FRACTIONAL
DIFFUSION-WAVE EQUATION WITH

TWO SPACE VARIABLES BY MATRIX METHOD 191

Meetings: ICMS 2011 (Jan. 3–5, 2011, Kerala, India)

“International Conference on Mathematical Sciences

in Honour of Prof. A.M. Mathai” 209

New Book: by A.M. Mathai, H.J. Haubold,

“Special Functions for Applied Scientists”, Springer, 2008 213

New Book: by A.M. Mathai, R.K. Saxena, H.J. Haubold,

“The H -Function”, Springer, 2010 216

New Book: by F. Mainardi,

“Fractional Calculus and Waves in Linear Viscoelasticity”,

World Sci. & Imperial College Press, 2010 219

In Memoriam: Anatoly Alexandrovich Kilbas 221

S. Abbas, M. Benchohra IMPULSIVE PARTIAL HYPERBOLIC FUNCTIONAL DIFFERENTIAL EQUATIONS OF FRACTIONAL ORDER WITH STATE-DEPENDENT DELAY	225
T. Mamatov, S. Samko MIXED FRACTIONAL INTEGRATION OPERATORS IN MIXED WEIGHTED HÖLDER SPACES	245
Ch. Chettaoui, Kh. Trimèche BOCHNER-HECKE THEOREMS FOR THE WEINSTEIN TRANSFORM AND APPLICATION	261
A. Anguraj, P. Karthikeyan ANTI-PERIODIC BOUNDARY VALUE PROBLEM FOR IMPULSIVE FRACTIONAL INTEGRO DIFFERENTIAL EQUATIONS	281
M.S. Samuel, A. Thomas ON FRACTIONAL HELMHOLTZ EQUATIONS	295
D. Kumar, A. Kilbas [‡] FRACTIONAL CALCULUS OF \mathcal{P} - TRANSFORMS	309
J.A. Tenreiro Machado, V. Kiryakova, F. Mainardi A POSTER ABOUT THE RECENT HISTORY OF FRACTIONAL CALCULUS	329

New Book: by K. Diethelm, THE ANALYSIS OF FRACTIONAL DIFFERENTIAL EQUATIONS, Springer 2010	335
Anniversaries:	
RUDOLF GORENFLO's 80th BIRTHDAY ANNIVERSARY	341
HARI M. SRIVASTAVA's 70th BIRTHDAY ANNIVERSARY	342
Corrigendum: to paper by M.K. Furati and M. Kirane, in FCAA, Vol. 11, Number 3 (2008), pp. 281-298	343
Symposium's Announce: The Fifth Symposium on Fractional Derivatives and Their Applications (FDTA'11), August 29 – 31, 2011, Washington D.C., USA	344

CONTENTS

Guest-Editors: Virginia Kiryakova and S. Owa

Special Issue: "GFTA'2010" - Sofia, **PART A**

Dedicated to 70th Anniversary of Prof. H.M. Srivastava

Editorial: PROF. H.M. SRIVASTAVA'S 70th BIRTHDAY	346
Editorial: International Symposium GFTA'2010: "GEOMETRIC FUNCTION THEORY AND APPLICATIONS'2010"	353
A. Alb Lupas	
CERTAIN DIFFERENTIAL SUBORDINATIONS USING GENERALI- ZED SĂLĂGEAN OPERATOR & RUSCHEWEYH OPERATOR ..	355
M. Aydoğan, Y. Polatoğlu	
APPLICATION OF SUBORDINATION PRINCIPLE TO LOG-HARMONIC α -SPIRALLIKE MAPPINGS	361
T. Hayami, S. Owa	
COEFFICIENT ESTIMATES FOR ANALYTIC FUNCTIONS CONCERNED WITH HANKEL DETERMINANT	367
T.N. Shanmugam, J. Lourthu Mary	
FEKETE-SZEGÖ INEQUALITY FOR UNIVERSALLY PRESTARLIKE FUNCTIONS	385
J. Nishiwaki, S. Owa	
AN APPLICATION OF CONVOLUTION INTEGRAL	395
J. Paneva-Konovska	
SERIES IN MITTAG-LEFFLER FUNCTIONS: INEQUALITIES AND CONVERGENT THEOREMS	403
D. Pashkouleva	
SOME NOTES ABOUT A CLASS OF UNIVALENT FUNCTIONS WITH NEGATIVE COEFFICIENTS	415
Dj. Takači, A. Takači	
ON THE OPERATIONAL SOLUTION OF A SYSTEM OF FRACTIONAL DIFFERENTIAL EQUATIONS	423
Y.Ts. Tsankov	
EXPLICIT SOLUTIONS OF NONLOCAL BOUNDARY VALUE PRO- BLEMS, CONTAINING BITSADZE-SAMARSKII CONSTRAINTS...	435
J.A. Tenreiro Machado, V. Kiryakova, F. Mainardi	
A POSTER ABOUT THE OLD HISTORY OF FRACTIONAL CALCULUS	447
<hr/>	
Conference Announces 2011: IDOTA, FDTA, AMADE, Others	455
Information on the new FCAA status	463

CONTENTS

Guest-Editors: Virginia Kiryakova and S. Owa

Special Issue: "GFTA'2010" - Sofia, **PART B**

Editorial: International Symposium GFTA'2010:	465
B. Daraby	
INVESTIGATION OF A STOLARSKY TYPE INEQUALITY FOR INTEGRALS IN PSEUDO-ANALYSIS	467
M. Darus, R.W. Ibrahim	
A NOTE ON UNIVALENT FUNCTIONS WITH FINITELY MANY COEFFICIENTS	475
H. Esra Özkan, Y. Polatoğlu, A. Şen	
APPLICATIONS OF SUBORDINATION PRINCIPLE TO LOG-HARMONIC MAPPINGS	487
K. Fujita	
ON THE QUOTIENT FUNCTION EMPLOYED IN THE BLIND SOURCE SEPARATION PROBLEM	495
Jianhua Gong	
HILBERT-SMITH CONJECTURE FOR K -QUASICONFORMAL GROUPS	507
Sh. Najafzadeh	
APPLICATION OF SALAGEAN AND RUSCHEWEYH OPERATORS ON UNIVALENT HOLOMORPHIC FUNCTIONS WITH FINITELY MANY COEFFICIENTS	517
G.I. Oros	
AN APPLICATION OF THE SUBORDINATION CHAINS	521
Gh. Oros, G.I. Oros	
ON A CONVEXITY PRESERVING INTEGRAL OPERATOR	531
Y. Polatoğlu	
SOME GROWTH AND DISTORTION THEOREMS FOR CLOSE-TO- CONVEX HARMONIC FUNCTIONS IN THE UNIT DISC	537
E. Yavuz Duman	
SOME DISTORTION THEOREMS FOR STARLIKE HARMONIC FUNCTIONS	545
N. Uyanik, S. Owa	
NOTE ON RADIUS PROBLEMS FOR CERTAIN CLASS OF ANALYTIC FUNCTIONS	553
Editorial: GHEORGHE OROS' 60th ANNIVERSARY	561
Editorial: YAŞAR POLATOĞLU'S 60th ANNIVERSARY	563

CONTENTS

Guest-Editors: Virginia Kiryakova, Yury Luchko,

Francesco Mainardi, Blas Vinagre, Igor Podlubny, YangQuan Chen

Special Issue: Dedicated to 80th Anniversary of Prof. R. Gorenflo

Editorial: FOREWORD	1
Yu. Luchko, F. Mainardi, S. Rogosin	
PROFESSOR RUDOLF GORENFLO AND HIS CONTRIBUTION TO FRACTIONAL CALCULUS	3
S. Samko	
ON A 3d-HYPERSINGULAR EQUATION OF A PROBLEM FOR A CRACK	19
Vu Kim Tuan	
INVERSE PROBLEM FOR FRACTIONAL DIFFUSION EQUATION	31
M. Hahn, S. Umarov	
FRACTIONAL FOKKER-PLANCK-KOLMOGOROV TYPE EQUATIONS AND THEIR ASSOCIATED STOCHASTIC DIFFERENTIAL EQUATIONS	56
G. Pagnini	
NONLINEAR TIME-FRACTIONAL DIFFERENTIAL EQUATIONS IN COMBUSTION SCIENCE	80
T.M. Atanackovic, S. Pilipovic	
HAMILTON'S PRINCIPLE WITH VARIABLE ORDER FRACTIONAL DERIVATIVES	94
Yu. Luchko	
MAXIMUM PRINCIPLE AND ITS APPLICATION FOR THE TIME-FRACTIONAL DIFFUSION EQUATIONS	110
M. Stojanovic	
FRACTIONAL DERIVATIVES IN SPACES OF GENERALIZED FUNCTIONS	125
A.M. Mathai, H.J. Haubold	
MATRIX-VARIATE STATISTICAL DISTRIBUTIONS AND FRACTIONAL CALCULUS	138

Conference: IDOTA-2011, June 30-July 2, 2011, Aveiro, Portugal (On the occasion of 70th birthday of Prof. S. Samko)	156
Conference: FDTA-2011, August 29-31, 2011, Washington D.C., USA (5th Symp. on Fractional Derivatives and Their Applications)	158
Conference: AMADE-2011, September 12-19, 2011, Minsk, Belarus (Dedicated to the memory of Prof. A.A. Kilbas)	160

CONTENTS

Editorial: PRESS RELEASE:

First Bulgarian journal published by Springer and Versita 163

D. Przeworska-Rolewicz

SHIFTS AND PERIODICITY IN ALGEBRAIC ANALYSIS 164

C. Atkinson, A. Osseiran

DISCRETE-SPACE TIME-FRACTIONAL PROCESSES 201

A. AbouelazTHE d -PLANE RADON TRANSFORMON THE TORUS T^n 233**A. Obeidat, M. Gharaibeh, M. Al-Ali, A. Rousan**

EVOLUTION OF A CURRENT IN A RESISTOR 247

K.N. Khan, W. Lamb, A.C. McBride

FRACTIONAL CALCULUS OF

PERIODIC DISTRIBUTIONS 260

T. Morita, K. Sato

MOLLIFICATION OF FRACTIONAL DERIVATIVES

USING RAPIDLY DECAYING HARMONIC WAVELET 284

M. Kostić

ABSTRACT TIME-FRACTIONAL EQUATIONS:

EXISTENCE AND GROWTH OF SOLUTIONS 301

D. Babusci, G. Dattoli, D. Sacchetti

THE LAMB-BATEMAN INTEGRAL EQUATION

AND THE FRACTIONAL DERIVATIVES 317

Conference: TMSF'2011, October 20-23, 2011, Sofia, Bulgaria(On the occasion of 80th anniversary of Prof. P. Rusev) 321

CONTENTS

Editorial:

FCAA NEWS, BOOKS, MEETINGS, ANNIVERSARIES 323

L. Vázquez, J.J. Trujillo, M.P. Velasco

FRACTIONAL HEAT EQUATION AND
THE SECOND LAW OF THERMODYNAMICS 334

H. Rafeiro, M. Yakhshiboev

THE CHEN-MARCHAUD FRACTIONAL
INTEGRO-DIFFERENTIATION IN THE VARIABLE
EXPONENT LEBESGUE SPACES 343

L. Diening, D. Cruz-Uribe, P. Hästö

THE MAXIMAL OPERATOR ON WEIGHTED
VARIABLE LEBESGUE SPACES 361

J.P.N. Bishwal

MINIMUM CONTRAST ESTIMATION IN FRACTIONAL
ORNSTEIN-UHLENBECK PROCESS:
CONTINUOUS AND DISCRETE SAMPLING 375

J. Kemppainen

EXISTENCE AND UNIQUENESS OF THE SOLUTION
FOR A TIME-FRACTIONAL DIFFUSION EQUATION 411

Y. Povstenko

NON-AXISYMMETRIC SOLUTIONS
TO TIME-FRACTIONAL DIFFUSION-WAVE EQUATION
IN AN INFINITE CYLINDER 418

Z. Jiao, Y.Q. Chen

STABILITY ANALYSIS OF FRACTIONAL-ORDER
SYSTEMS WITH DOUBLE NONCOMMENSURATE
ORDERS FOR MATRIX CASE 436

N.J. Ford, J. Xiao, Y. Yan

A FINITE ELEMENT METHOD FOR TIME FRACTIONAL
PARTIAL DIFFERENTIAL EQUATIONS 454

K. Diethelm

AN EFFICIENT PARALLEL ALGORITHM
FOR THE NUMERICAL SOLUTION
OF FRACTIONAL DIFFERENTIAL EQUATIONS 475

CONTENTS

Editorial:	
FCAA NEWS: MEETINGS, BOOKS, ANNIVERSARIES	491
P. Lanusse, J. Sabatier	
PLC IMPLEMENTATION OF A CRONE CONTROLLER	505
A.B. Malinowska, D.F.M. Torres	
FRACTIONAL CALCULUS OF VARIATIONS FOR A COMBINED CAPUTO DERIVATIVE	523
D. Idczak, R. Kamocki	
ON THE EXISTENCE AND UNIQUENESS AND FORMULA FOR THE SOLUTION OF R-L FRACTIONAL CAUCHY PROBLEM IN R^n	538
N.J. Ford, M.L. Morgado	
FRACTIONAL BOUNDARY VALUE PROBLEMS: ANALYSIS AND NUMERICAL METHODS	554
G. Baumann, F. Stenger	
FRACTIONAL CALCULUS AND SINC METHODS	568
Ž. Tomovski, T.K. Pogány	
INTEGRAL EXPRESSIONS FOR MATHIEU-TYPE POWER SERIES AND FOR THE BUTZER-FLOCKE-HAUSS Ω -FUNCTION	623
J. Tenreiro Machado	
AND I SAY TO MYSELF: “WHAT A FRACTIONAL WORLD!”	635
