



CONTENTS of Volume 24, No 5 (2021)

Editorial: FCAA RELATED NEWS, EVENTS AND BOOKS (FCAA–Volume 24–5–2021)	1299
M. D’Elia, M. Gulian, H. Olson, G.E. Karniadakis TOWARDS A UNIFIED THEORY OF FRACTIONAL AND NONLOCAL VECTOR CALCULUS	1301
D. Yoon, D. You AN ADAPTIVE MEMORY METHOD FOR ACCURATE AND EFFICIENT COMPUTATION OF THE CAPUTO FRACTIONAL DERIVATIVE	1356
P.B. Dubovski, J. Slepai ANALYSIS OF SOLUTIONS OF SOME MULTI-TERM FRACTIONAL BESSEL EQUATIONS	1380
H.R. Henríquez, V. Poblete, J.C. Pozo EXISTENCE OF SOLUTIONS FOR THE SEMILINEAR ABSTRACT CAUCHY PROBLEM OF FRACTIONAL ORDER	1409
A. Lastra, S. Michalik, M. Suwińska SUMMABILITY OF FORMAL SOLUTIONS FOR A FAMILY OF GENERALIZED MOMENT INTEGRO-DIFFERENTIAL EQUATIONS	1445
J. Jia, X. Zheng, H. Wang ANALYSIS AND FAST APPROXIMATION OF A STEADY-STATE SPATIALLY-DEPENDENT DISTRIBUTED-ORDER SPACE-FRACTIONAL DIFFUSION EQUATION	1477
U. Le, D.E. Pelinovsky GREEN’S FUNCTION FOR THE FRACTIONAL KDV EQUATION ON THE PERIODIC DOMAIN VIA MITTAG–LEFFLER FUNCTION	1507

(Continued on back cover page)

CONTENTS, continued:

J. Juchem, A. Chevalier, K. Dekemele, M. Loccufier FIRST ORDER PLUS FRACTIONAL DIFFUSIVE DELAY MODELING: INTERCONNECTED DISCRETE SYSTEMS	1535
R. Droghei ON A SOLUTION OF A FRACTIONAL HYPER-BESSEL DIFFERENTIAL EQUATION BY MEANS OF A MULTI-INDEX SPECIAL FUNCTION	1559
Y. Li ON THE DECOMPOSITION OF SOLUTIONS: FROM FRACTIONAL DIFFUSION TO FRACTIONAL LAPLACIAN	1571
A. Mayoufi, S. Victor, M. Chetoui, R. Malti, M. Aoun OUTPUT ERROR MISO SYSTEM IDENTIFICATION USING FRACTIONAL MODELS	1601
J.-S. Duan, Y. Li IDENTIFICATION OF SYSTEM WITH DISTRIBUTED-ORDER DERIVATIVES	1619
T. Simon ON THE GREEN FUNCTION OF THE KILLED FRACTIONAL LAPLACIAN ON THE PERIODIC DOMAIN	1629

ABOUT “FCAA” JOURNAL

The “FCAA” journal, abbreviated as “**Fract. Calc. Appl. Anal.**”, Print ISSN **1311-0454**, Electronic ISSN **1314-2224**, is a specialized international journal for theory and applications of an important branch of Mathematical Analysis (Calculus), where the differentiations and integrations can be of arbitrary non-integer order. A peer-reviewed journal with high standards guaranteed by the Editorial Board’s list and carefully selected external referees and proven by the achieved high values in SCI of Clarivate Analytics (WoS): **Impact Factor (JIF) = 2.974 (2013), 2.245 (2014), 2.246 (2015), 2.034 (2016), 2.865 (2017), 3.514 (2018), 3.17 (2019), 3.126 (2020)**; **5-year IF = 3.601**; **CiteScore = 6.0**; in Scopus: **Impact Rang (SJR) = 2.106 (2013), 1.433 (2014), 1.551 (2015), 1.553 (2016), 1.967 (2017), 1.891 (2018), 1.858 (2019), 1.4 (2020)**; **H-index = 51**. These data always keep “FCAA” at **Q1** and **Top 10** places in the ranking lists for Math., Math. Appl., etc.

Abstracted / Indexed in: ISI Science Citation Index Expanded and Journal Citation Reports/Science Ed. (Clarivate Analytics); Scopus (Elsevier); SCImago (SJR); WorldCat (OCLC); Mathematical Reviews (MathSciNet); Zentralblatt Math.; Summon (Serials Solutions / ProQuest); Primo Central (ExLibris); Celdes; JournalTOCs; Google Scholar; etc.

Established in 1998, Founding Publisher: (Vol. 1–Vol. 13, 2010) Institute of Mathematics and Informatics – Bulgarian Academy of Sciences. Contents and abstracts of all volumes, back volumes 2005–2010, and journal’s details are available at **Editor’s websites:**
<http://www.math.bas.bg/complan/fcaa>, <http://www.diogenes.bg/fcaa>.

Published now with the kind assistance and cooperation of:
Institute of Mathematics and Informatics – Bulgarian Academy of Sciences.

Co-published in the period 2011–2014, Vol. 14–Vol. 17, by:
Versita = De Gruyter Open, Warsaw and Springer-Verlag, Wien,
Website (former): <http://http://degruyteropen.com/serial/fcaa/>
and **Online Electronic version then was at SpringerLink.**

Current Publisher – since 2015, Vol. 18:
Walter de Gruyter GmbH, Berlin / Boston,
Publisher’s website: <http://www.degruyter.com/view/j/fca>
= <http://www.degruyter.com/fcaa>
with all journal’s details and online electronic version (Vols. 14–17, free).

To Order: Contact Kathrin Müllenbach, LL. M., De Gruyter,
Genthiner Strasse 13, 10785 Berlin, Germany; Tel.: +49 (0) 30 260 05-350,
Fax: +49 (0) 30 260 05-264, E-mail: kathrin.muellenbach@degruyter.com

To Submit: Electronically to Editor-in-Chief, virginia@diogenes.bg
(Virginia Kiryakova). Follow Instructions to Authors, use **Authors’ Kit**.

Publisher and Distributor, since 2015:
Walter de Gruyter GmbH, Berlin / Boston



EDITORIAL BOARD

Editor-in-Chief: 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

Honorary Founding Editors[†] were:

Wen Chen[†] (China), Rudolf Gorenflo[†] (Germany), Anatoly A. Kilbas[†] (Belarus),
Eric R. Love[†] (Australia), Danuta Przeworska-Rolewicz[†] (Poland), Gary F. Roach[†]
(UK), Ian N. Sneddon[†] (UK), Bogoljub Stankovic[†] (Serbia)

Honorary Editors:

Yury Brychkov (Russia), Paul L. Butzer (Germany), Michele Caputo (Italy),
Ivan Dimovski (Bulgaria), Mourad E.H. Ismail (USA), Shyam L. Kalla (India),
Francesco Mainardi (Italy), Oleg Marichev (USA), Peter Rusev (Bulgaria), Megumi
Saigo (Japan), Stefan Samko (Portugal), Jerome Spanier (USA), Hari M. Srivas-
tava (Canada)

Associate Editors:

Kai Diethelm (Germany), Roberto Garrappa (Italy), Anatoly Kochubei (Ukraine),
Yuri Luchko (Germany), J.A.T. Machado (Portugal), Ivo Petras (Slovak R.), Igor
Podlubny (Slovak R.), Vasily E. Tarasov (Russia), Sabir Umarov (USA)

Editorial Board:

Teodor Atanackovic (Serbia), Boris Baeumer (N. Zealand), Emilia Bazhlekova
(Bulgaria), Lyubomir Boyadjeff (USA), Alberto Cabada (Spain), YangQuan Chen
(USA), Mark Edelman (USA), Paul Elloe (USA), Sergei Fedotov (UK), Neville
Ford (UK), Alan Freed (USA), Roberto Garra (Italy), Christopher Goodrich
(Australia), Rudolf Hilfer (Germany), Sverre Holm (Norway), Niels Jacob (UK),
Bangtu Jin (UK), George Karniadakis (USA), Eva Kaslik (Romania), Mokhtar
Kirane (UAE), Malgorzata Klimek (Poland), Vassili Kolokoltsov (UK-Russia),
Changpin Li (China), Carlos Lizama (Chile), Richard Magin (USA), Rachid Malti
(France), Pierre Melchior (France), Ralf Metzler (Germany), Piotr Mikusinski
(USA), Juan J. Nieto (Spain), Donal O'Regan (Ireland), Gianni Pagnini (Spain),
Yuriy Povstenko (Poland), Rosana Rodriguez-Lopez (Spain), Sergei Rogosin (Be-
larus), Boris Rubin (USA), Trifce Sandev (N. Macedonia), Enrico Scalas (UK),
Alla Sikorskii (USA), Martin Stynes (China), HongGuang Sun (China), Stepan
Tersian (Bulgaria), Juan Trujillo (Spain), Blas Vinagre (Spain), Vu Kim Tuan
(USA), Masahiro Yamamoto (Japan), Ahmed Zayed (USA), Yong Zhou (China);
Assisting Editors: Anatoly A. Alikhanov (Russia), Riccardo Caponetto (Italy),
Mirko D'Ovidio (Italy), Andrea Giusti (Canada), S. Hassan HosseinNia (The
Netherlands), Yikan Liu (Japan), Jordanka Paneva-Konovska (Bulgaria), Tomas
Skovranek (Slovak R.), Duarte Valerio (Portugal), Zhi Zhou (Hong Kong)