



ANALELE ȘTIINȚIFICE

ale

UNIVERSITĂȚII "OVIDIUS" CONSTANȚA

Seria MATEMATICĂ

(Mathematical Journal of the Ovidius University of Constantza)
Tome XXVIII (2020), No. 1

ISSN 1224-1784

e-ISSN 1844-0835

Ovidius University Press



**Universitatea Ovidius – Constanța, România,
Analele Științifice ale Universității Ovidius Constanța,
Seria Matematică, volumul 28, fascicula 1, 2020
(The Mathematical Journal of the Ovidius University of
Constantza, Tome XXVIII, No. 1, 2020)**

This journal is founded by **Mirela Ștefănescu** and **Silviu Sburian** in 1993 and is devoted to pure and applied mathematics. Papers on theoretical physics, astronomy and informatics may be accepted if they present interesting original mathematical results. The articles published by this journal (An. Științ. Univ. Ovidius Constanța, Ser. Mat.) are reviewed/indexed by Zentralblatt für Mathematik and Mathematical Reviews. Starting 2008 the journal has been selected for coverage in the Science Citation Index Expanded (SCIE)-Thomson Reuters and from 2011 the journal is included in Master Journal List. The IMPACT FACTOR for 2018 is 0.638 (Journal Citation Reports, Clarivate Analytics).

Published by the Faculty of Mathematics and Computer Science, Ovidius University, Constantza, Romania, since 1993.

ISSN 1224-1784 e-ISSN 1844-0835

EDITOR-IN-CHIEF

Cristina Flaut

Department of Mathematics and Computer Science
Ovidius University of Constantza,
Mamaia Bd. 124, 900527 Constantza, Romania
cflaut@univ-ovidius.ro

MANAGING EDITORS

Diana Savin

Department of Mathematics and Computer Science
Ovidius University of Constantza,
Mamaia Bd. 124, 900527 Constantza, Romania
savin.diana@univ-ovidius.ro

Dragoş Sburan

Department of Mathematics and Computer Science
Ovidius University of Constantza,
Mamaia Bd. 124, 900527 Constantza, Romania
dsburan@univ-ovidius.ro

TECHNICAL EDITORS

George Cîrlig

Department of Mathematics and Computer Science
Ovidius University of Constantza,
Mamaia Bd. 124, 900527 Constantza, Romania
cgeorge@univ-ovidius.ro

Cristina Şerban

Department of Mathematics and Computer Science
Ovidius University of Constantza,
Mamaia Bd. 124, 900527 Constantza, Romania
serban.cristina@univ-ovidius.ro

Andrei Rusu

Department of Mathematics and Computer Science
Ovidius University of Constantza,
Mamaia Bd. 124, 900527 Constantza, Romania
agrusu@univ-ovidius.ro

HONORARY EDITOR-IN-CHIEF

Mirela Ştefănescu

Department of Mathematics and Computer Science
Ovidius University of Constantza,
Mamaia Bd. 124, 900527 Constantza, Romania
mirelast@univ-ovidius.ro

Available also electronically: <http://www.anstuocmath.ro>

Address for subscriptions and paper submission: submission@anstuocmath.ro

EDITORIAL BOARD

Ravi P. Agarwal	Texas AM University, Kingsville, USA e-mail: agarwal@tamuk.edu
Toma Albu	Mathematical Institute of Academy, Bucharest, Romania e-mail: Toma.Albu@imar.ro
Ayman Badawi	American University of Sharjah, United Arab Emirates e-mail: abadawi@aus.edu
Viorel Barbu	Al.I.Cuza University, Iasi, Romania e-mail: vb41@uaic.ro
Daniel Breaz	1 December 1918 University, Alba-Iulia, Romania e-mail: breazdaniel@yahoo.com, dbreaz@uab.ro
Vasile Brinzanescu	Mathematical Institute of Academy, Bucharest, Romania e-mail: Vasile.Brinzanescu@imar.ro
Eleonor Ciurea	Transilvania University, Brasov, Romania e-mail: e.ciurea@unitbv.ro
Constantin Corduneanu	University of Arlington, Texas, USA e-mail: concord@uta.edu.
Mircea Crășmăreanu	Al.I.Cuza University, Iasi, Romania e-mail: mcraasm@uaic.ro
Alexandru Dimca	Université de Nice - Sophia Antipolis, Laboratoire J.-A. Dieudonné, Nice, France e-mail: dimca@math.unice.fr
Gheorghe Dinca	University of Bucharest, Romania e-mail: Dinca2002@yahoo.fr
Jordi Guàrdia	University Politecnica de Catalunya, Barcelona, Spain e-mail: guardia@ma4.upc.edu
Gheorghe Gussi	Mathematical Institute of Academy, Bucharest, Romania e-mail: ghgussi@imar.ro
Vladimir V. Kisil	School of Mathematics, University of Leeds (England) e-mail: kisilv@maths.leeds.ac.uk
Marin Marin	Transilvania University, Brasov, Romania e-mail: m.marin@unitbv.ro
Radu Miron	Al. I. Cuza University, Iasi, Romania e-mail: rmiron@uaic.ro
Gheorghe Moroșanu	Al. I. Cuza University, Iasi, România e-mail: gmoro@uaic.ro Central European University, Budapest, Hungary e-mail: morosanug@ceu.hu
Filip Najman	University of Zagreb, Croatia e-mail: fnajman@math.hr
Constantin Năstăsescu	University of Bucharest, Romania e-mail: cnastase@al.math.unibuc.ro
Dan Pascali	Ovidius University, Constanta, Romania Courant Institute, New York, USA e-mail: dp39@nyu.edu
Sergiy Plaksa	Dpt. of Complex Analysis and Potential Theory, Institute of Mathematics of the National Academy of Sciences of Ukraine, Kiev, Ukraine e-mail: plaksa@imath.kiev.ua; plaksa62@gmail.com
Nicolae H. Pavel	Ohio University, USA e-mail: npavel@bing.math.ohio.edu
Constantin Popa	Ovidius University, Constanta, Romania e-mail: cpopa@univ-ovidius.ro
Nicolae Popa	University of Bucharest, Romania e-mail: nicolae.popa@imar.ro
Susanne Pumpluen	University of Nottingham, England e-mail: susanne.pumpluen@nottingham.ac.uk
Vicentiu Radulescu	Mathematical Institute of Academy, Bucharest, Romania e-mail: vicentiu.radulescu@math.cnrs.fr
Dušan Repovš	University of Ljubljana e-mail: dusan.repovs@fmf.uni-lj.si
Silviu Sburlan	Naval Academy "Mircea cel Bătrân" Constantza, Romania e-mail: ssburlan@univ-ovidius.ro
Mihai Turinici	Al.I.Cuza University, Iasi, Romania e-mail: mturi@uaic.ro