



„Annales Mathematicae Silesianae” is published by the Silesian University. The journal publishes original research papers in pure and applied mathematics.

EDITORIAL OFFICE

Instytut Matematyki  
Uniwersytet Śląski  
ul. Bankowa 14  
40-007 Katowice  
Poland



NR 3240

# Annales Mathematicae Silesianae

---

28 (2014)

---

EDITORIAL BOARD

EDITOR-IN-CHIEF: **Maciej Sablik (Poland)**

EDITORS: **Roman Ger (Poland)**  
**Moshe Goldberg (Israel)**  
**Michael C. Mackey (Canada)**  
**Jean Mawhin (Belgium)**  
**Zsolt Páles (Hungary)**  
**Ludwig Reich (Austria)**  
**Łukasz Stettner (Poland)**

MANAGING EDITOR: **Justyna Sikorska (Poland)**

The electronic version of the volume is available on the page:

Silesian Digital Library  
**[www.sbc.org.pl](http://www.sbc.org.pl)**

## Contents

TIANRAN CHEN, TIEN-YIEN LI: Solutions to systems of binomial equations .....	7
LUDWIK BYSZEWSKI: Strong maximum principles for infinite implicit parabolic systems .....	35
ESZTER GSELMANN: On approximate $n$ -Jordan homomorphisms ...	47
JAN LIGEZA: Existence of generalized, positive and periodic solutions for some differential equations of order II .....	59
VALERIU POPA, ALINA-MIHAELA PATRICIU: Altering distance and common fixed points for hybrid mappings under implicit relations and applications .....	87
Report of Meeting. The Fourteenth Debrecen-Katowice Winter Seminar, Hajdúszoboszló (Hungary), January 29 – February 1, 2014 .....	97

## Information for Authors

Submission of a manuscript implies that the work described has not been published before, that it is not under consideration for publication elsewhere, and that it will not be published elsewhere unless it has been rejected by the editors of “Annales Mathematicae Silesianae”. Moreover, the article contains no unlawful statements and it does not infringe the rights of others.

All authors contribute to the same extent to the present article, and no “ghostwriting” or “guest authorship” practices occur. “Ghostwriting” and “guest authorship” are indications of scientific dishonesty and all cases will be exposed and adequate institutions will be informed.

Manuscript should be written in English and sent either electronically via e-mail, or in hardcopy by regular mail. In the first case the Authors are asked to send pdf files as an e-mail attachment to: [annales@math.us.edu.pl](mailto:annales@math.us.edu.pl) and in the latter case – to send their papers to the Editorial Office: Instytut Matematyki, Uniwersytet Śląski, Bankowa 14, 40-007 Katowice, Poland.

An abstract of not more than 15 lines should describe the main results of the paper. Included into the footnotes of the first page should be the Mathematics Subject Classification (2010). Key words and phrases should follow. It is necessary to indicate an abbreviated title which will be used as a running head (up to 60 characters including spaces). Figures should be prepared in a form suitable for direct reproduction. Sending EPS or PNG files will be most helpful. References should be numbered and arranged in alphabetical order, or in the case of the same author, chronologically. The style and abbreviations should follow the “Mathematical Reviews”.

Authors affiliations, including complete postal address and e-mail addresses, should be given at the end of the manuscript.

On acceptance of the paper Authors will be asked to send the final version of the paper as the  $\LaTeX$  and pdf files to the address: [annales@math.us.edu.pl](mailto:annales@math.us.edu.pl)

Copies of all manuscripts should be retained by the Authors. In case of several coauthors indicate one author as the corresponding author. The Author will obtain one set of proofs for corrections after acceptance of the manuscript.

After publishing of the volume all the papers will be available online on the pages of the Silesian Digital Library [www.sbc.org.pl](http://www.sbc.org.pl). Moreover, all the indices of “Annales Mathematicae Silesianae” and some more information on our journal are accessible on the homepage:

<http://www.math.us.edu.pl/annales>

Projektant okładki

Gerard Labus

Redaktor

Barbara Todos-Burny

Redaktor techniczny

Barbara Arenhövel

Copyright © 2014

by Wydawnictwo Uniwersytetu Śląskiego

Wszelkie prawa zastrzeżone

**ISSN 0208-6336**

**ISSN 0860-2107**

(wersja drukowana)

**ISSN 2391-4238**

(wersja elektroniczna)

Wydawca

**Wydawnictwo Uniwersytetu Śląskiego**

**ul. Bankowa 12B, 40-007 Katowice**

[www.wydawnictwo.us.edu.pl](http://www.wydawnictwo.us.edu.pl)

e-mail: [wydawus@us.edu.pl](mailto:wydawus@us.edu.pl)

---

Wydanie I. Nakład: 120 + 50 egz. + 25 nadb. Ark. druk. 7,5.  
Ark. wyd. 8,5. Papier offset. kl. III, 90 g Cena 20 zł (+ VAT)

---

Druk i oprawa: „TOTEM.COM.PL Sp. z o.o.” Sp.K.  
ul. Jacewska 89, 88-100 Inowrocław