

Casimir Pulaski Radom University



**Journal of Automation,
Electronics
and Electrical Engineering**

**Volume 7
No. 2**

Radom 2025

Reviewers

Prof. Stanisław DUER - Koszalin University of Technology, Poland

Prof. Jacek KOZYRA - Casimir Pulaski Radom University, Poland

Prof. Mirosław LUFT - Casimir Pulaski Radom University, Poland

Prof. Adam ROSIŃSKI - Warsaw University of Technology, Poland

Prof. Jerzy WOJCIECHOWSKI - Casimir Pulaski Radom University, Poland

Editorial Committee Contact

**Journal of Automation, Electronics and Electrical Engineering
JAEEE**

Casimir Pulaski Radom University

Faculty of Transport, Electrical Engineering and Computer Science

Malczewskiego 29, 26-600 Radom, Poland

email: jaeee@urad.edu.pl

www.jaeee.uniwersytetradom.pl

ISSN 2658-2058

Copyright@2025 by Publishing House Casimir Pulaski Radom University

All rights reserved. No part of this publication may be modified, reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or by any information storage and retrieval system, without permission in writing from publisher.

Journal of Automation, Electronics and Electrical Engineering Journal

JAEED

Scientific and Editorial Board

Prof. Zbigniew Łukasik - Chairman of Scientific Board

Casimir Pulaski Radom University, Poland

Prof. Mirosław Luft - Editor_in_Chief

Casimir Pulaski Radom University, Poland, Poland

Prof. Miroslav Gutten - The University of Žilina, Slovakia

Prof. Daniel Korenčíak - The University of Žilina, Slovakia

Prof. Jacek Kozyra - Casimir Pulaski Radom University, Poland

Prof. Andrzej Lewiński - Casimir Pulaski Radom University, Poland

Prof. Mareks Mezitis - Transport Academy, Latvia

Prof. Andrzej Wac-Włodarczyk - Lublin University of Technology, Poland

Prof. Waldemar Wójcik - Lublin University of Technology, Poland

Prof. Tadeusz Kaczorek - Białystok University of Technology, Poland

Prof. Krzysztof Kluszczyński - Tadeusz Kościuszko University of Technology, Poland

Prof. Józef Lisowski - The Gdynia Maritime University, Poland

Prof. Erwin Smet - The University of Antwerp, Belgium

Prof. Aleš Janota - The University of Žilina, Slovakia

Science Secretary

Daniel Pietruszczak, BEng, PhD - Casimir Pulaski Radom University, Poland

Layout Design

Prof. Mariusz Dański - Casimir Pulaski Radom University, Poland

Computer Formatting, Website Suport

Wojciech Chamela, BEng, MSc - Casimir Pulaski Radom University, Poland

Publishing House
Casimir Pulaski Radom University
Faculty of Transport, Electrical Engineering and Computer Science
Malczewskiego 29, 26-600 Radom, Poland
email: wydawnictwo@urad.edu.pl

Printing and binding:
Printing Department of the Casimir Pulaski Radom University, Poland

Contents

Tadeusz KACZOREK	New stability conditions for the discrete-time and continuous-time linear Roesser models	7
Juha KALLUNKI	Characterization and selection of electromagnetic interference (EMI) line filter for variable-frequency drive (VFD) application	17
Konrad KRZYSZTOSZEK Damian KUSAK Miroław LUFT Daniel PIETRUSZCZAK	Automatic pill dispenser supporting correct medication dosing	27
Jacek PAŚ Tomasz KLIMCZAK	The influence of natural environment on the operation of selected elements of fire signalling systems - limiting the number of false alarms	41

