

Bulletin of the Polish Academy of Sciences Technical Sciences (BPASTS)

Volume 72, No. 5 SPECIAL SECTION

September 2024

CONTENTS: SPECIAL SECTION on New control algorithms, modern devices, and materials in electric energy conversion systems

New control algorithms, modern devices, and materials in electric energy conversion systems

Jacek Kabziński, Marek Jasiński, and Jacek Rąbkowski

Dynamic modeling and identification of a reluctance synchronous machine parameters

Łukasz J. Niewiara, Michał Gierczyński, Tomasz Tarczewski, Lech M. Grzesiak

Robust control of motion in presence of uncertain parameters and control constraints

Marcin Jastrzębski, Jacek Kabziński, Przemysław Mosiołek

Current sensor fault-tolerant control based on modified Luenberger observers for safety-critical vector-controlled induction motor drives

Michał Adamczyk, Teresa Orłowska-Kowalska

Application of continuous wavelet transform and convolutional neural networks in fault diagnosis of PMSM stator windings

Przemysław Pietrzak, Marcin Wolkiewicz

Theoretical and experimental comparison of gear systems: planetary mechanical transmission and coaxial magnetic gear

Janusz Kołodziej, Rafał Gabor, Marcin Kowol, Marian Łukaniszyn

Selected aspects of the operation of dual active bridge DC/DC converters

Serafin Bachman, Marek Turzyński, Marek Jasiński

Resonant step-down DC-DC converter based on GaN power integrated circuits and SiC diodes

Robert Stala, Szymon Folmer, Andrzej Mondzik

Quasi Z-source direct matrix converter for enhanced resilience to power grid faults in permanent magnet synchronous motor applications

Przemysław Siwek, Konrad Urbański

Experimental test results of an automatic voltage regulator with independent phase voltage controllers

Wojciech Śleszyński, Artur Cichowski, Krzysztof Jakub Szwarc, Robert Małkowski, Paweł Szczepankowski, Andrzej Augusiak, Dariusz Karkosiński, Ryszard Strzelecki

Reconfigurable smart metamaterial for energy transfer control in alternating magnetic fields

Adam Steckiewicz, Aneta Stypułkowska