

Selected papers presented at
the 14th Symposium of Magnetic
Measurements and Modelling SMMM'2023

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The Symposium was organized by

- Polish Society of Theoretical and Applied Electrical Engineering, Częstochowa Branch

In cooperation with

- Faculty of Electrical Engineering, Częstochowa University of Technology
- Institute of Metrology and Biomedical Engineering, Faculty of Mechatronics, Warsaw University of Technology

Under the auspices of

- Committee of Metrology and Research Equipment, Polish Academy of Sciences
- Rector of Czestochowa University of Technology, prof. dr hab. inż. Norbert Szczygiol

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Preface

The proceedings volume contains selected papers presented during the 14th Symposium of Magnetic Measurements and Modelling “SMMM’2023”, which took place in Zakopane (Poland), October 16–18, 2023. The Symposium was organized by the Częstochowa Branch of the Polish Society of Theoretical and Applied Electrical Engineering (PTETiS) in cooperation with the Faculty of Electrical Engineering of the Częstochowa University of Technology and the Institute of Metrology and Biomedical Engineering, Faculty of Mechatronics, Warsaw University of Technology.

The Symposium has emerged as a continuation of the Symposia of Magnetic Measurements held previously. The 14th Symposium of Magnetic Measurements & Modelling provided an excellent opportunity for scientists and engineers dealing with magnetic measurements and modelling of magnetic properties to present and discuss the results of their research. The scope of the Symposium has been extended to include modelling of properties and applications of magnetic materials and covered the following topics: measurements of magnetic quantities, indirect measurements of physical quantities using magnetic measurements, measurement techniques in a high-frequency range, nondestructive evaluation of materials, modelling of magnetic properties, magnetocaloric and magnetomechanical effect, structure and properties of magnetic materials, sensors and actuators, magnetic circuits in electrical machines, mechatronics systems.

Over 30 people from domestic and foreign academic centres, research institutes and industry participated in the Symposium, including:

- Professor Marcos Flavio de Campos, UFF — Federal Fluminense University (Brasil);
- Professor Peter Kollár, Pavol Jozef Šafárik University in Košice (Slovakia);
- Professor Branko Koprivica, University of Kragujevac (Serbia);
- Łukasz Mierczak, PhD, Brockhaus Measurements (Germany);
- Professor Denisa Olekšáková, Technical University of Košice (Slovakia);
- Professor Zdenek Roubal, Brno University of Technology (Czech Republic).

During the Symposium, 7 sessions were organized and 28 presentations were presented. In the plenary session, two invited talks were given:

- (1) Ł. Mierczak, “*Advanced measurement technologies for magnetic materials used in automotive applications*”,
- (2) M.F. de Campos, J.A. de Castro, “*Comparative view of coercivity mechanisms in soft and hard magnetic materials*”.

The Organizing Committee would like to express its gratitude to all participants for the high-level presentation of their research, which concerned the scientific and engineering aspects of measurement and modelling the properties of soft magnetic materials.

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Editors of the Proceedings