

Preface

The fifth edition of CMMNO conference was held together with the 6th International Congress on Technical Diagnostics in Gliwice, Poland, in September, 2016. This time, the event was organized by Silesian University of Technology in Gliwice, Faculty of Mechanical Engineering, and Polish Society of Technical Diagnostics. The conference have been interesting, convolving CMMNO with ICTD gave a chance to track new ideas in condition monitoring of machines under nonstationary operations for broader audience.

Mission of the conference is to be as close as possible to real problems in condition monitoring. It was a privilege and great honor to host as keynote speakers outstanding experts in field of diagnostics, both with academic and industrial background, namely:

- Prof. Fulei Chu, Department of Mechanical Engineering, Tsinghua University, Beijing, China
- Prof. Giorgio Dalpiaz, Department of Engineering, University of Ferrara, Italy
- Prof. Spilios D. Fassois, Stochastic Mechanical Systems & Automation (SMSA) Laboratory, Department of Mechanical and Aeronautical Engineering, University of Patras, Greece
- Dr. James Ottewill, ABB Corporate Research Center, Cracow, Poland
- Dr. Ibrahim A Sever, Rolls-Royce, UK

The conference (including ICTD that will be also summarized as separate volume in Applied Condition Monitoring series) consisted of 19 sessions, and it could be said that almost all from important areas of modern technical diagnostics have been presented.

All the chapters included in this book were rigorously reviewed by 2 referees, so we would like to express our gratitude to all reviewers. Based on reviewer's opinions, 34 papers have been selected to be published as CMMNO proceedings volume in Applied Condition Monitoring series.

Selected papers in most cases described novel diagnostic techniques that combine known signal processing methods or decision-making approaches. In a few cases, novel signal processing methods have been proposed, including adaptation of

known techniques to seriously nonstationary signals. Also several papers discussed technical aspects of condition monitoring systems (how to design it in the cheapest way, what techniques should be used to minimize energy consumption, especially in mobile, wireless systems, how to calibrate sensors, etc.). Two papers recalled model-based diagnostic approach, i.e., model of mechanical system or phenomena have been proposed and used to design diagnostic procedure.

It is worthy to mention that variety of objects have been investigated (gears, bearings, engines, pipes, blades... etc.), and researchers used various physical data to describe phenomena (vibration, acoustics, infrared thermography, temperature...).

It should be noted that majority of papers have highlighted nonstationarity of operating condition that proves that this conference should be continued, and we kindly invite researchers to Santander, Spain, in 2018 for sixth edition of CMMNO.

At the end, we would like to acknowledge to all authors, presenters, and participants of 5th edition of CMMNO, thanks to all of them; this conference is still important, has good reputation, and brings original contribution to engineering community.

Gliwice, Poland
Sfax, Tunisia
Wrocław, Poland
Wrocław, Poland
Sfax, Tunisia
2017

Anna Timofiejczuk
Fakher Chaari
Radosław Zimroz
Walter Bartelmus
Mohamed Haddar

Advances in Condition Monitoring of Machinery in
Non-Stationary Operations

Proceedings of the 5th International Conference on
Condition Monitoring of Machinery in Non-stationary
Operations, CMMNO'2016, 12-16 September 2016,
Gliwice, Poland

Timofiejczuk, A.; Chaari, F.; Zimroz, R.; Bartelmus, W.;
Haddar, M. (Eds.)

2018, X, 373 p. 206 illus., 159 illus. in color., Hardcover
ISBN: 978-3-319-61926-2