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Open Challenges of On-Machine and In-Process Metrology for Precision Manufacturing

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Message from the Guest Editors

Dear Colleagues,

This Special Issue will cover the current and most-pressing open challenges in the application of on-machine and in-process metrology for precision manufacturing.

Submissions are particularly welcomed in the following subject areas:

1. Measurement for applications in process monitoring and control

- Innovative measuring technologies for on-machine and in-process metrology of fundamental quantities;

- On-Machine and in-process measurement for monitoring components of manufacturing systems or entire manufacturing machines

- On-Machine and in-process measurement of roundness/cylindricity/straightness/flatness;

- On-Machine and in-process measurement of surface topography;

2. Measurement uncertainty estimation and calibration

- Estimation of measurement uncertainty and assessment of measurement error sources;

- Calibration and self-calibration of measuring systems for on-machine and in-process metrology.

3. Data processing

- Novel computational solutions for fast and lightweight

Special Issue

measurement data processing

- AI and machine learning for on-machine and in-process metrology
- Digital twins to support on-machine and in-process metrology.

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Message from the Editor-in-Chief

Metrology draws together researchers from diverse areas of metrology or measurement technology in a wide variety of applications. I encourage you to submit your manuscripts for consideration or publication in the area of measurement engineering, according to the scope of the journal. *Metrology* is supported by our authors and their institutes through low article processing charges (APC) for accepted papers. We hope you will support the journal by becoming one of our authors.

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