



ASTM INTERNATIONAL CONFERENCE ON ADVANCED MANUFACTURING

Research to Application through Standardization

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Process Control and In-Situ Monitoring Techniques in AM

As the field of Additive Manufacturing (AM) quickly evolves and is increasingly adopted by industry, in-process control and in-situ monitoring will become crucial pillars in enhancing yield, improving print quality, reducing the costs of non-destructive evaluation (NDE), and accelerating qualification and certification. The AM community recognizes that integrated efforts across the AM value chain to accelerate standardization of in-situ monitoring and control methods can play a significant role in advancing AM industrial adoption.

Topics of interest include but are not limited to:

- Landscape analysis of in-process control and in-situ monitoring in AM
- Challenges and development of in-process control and in-situ monitoring in AM
- Validation and management of in-situ monitoring data
- Integration of in-situ monitoring, in-process control, and modeling approaches
- Use of in-situ monitoring to elucidate process physics
- In-situ monitoring to aid post-process NDE
- Qualification and certification enabled by in-situ monitoring
- Development and validation of defect-signal-property relationships
- Application of machine learning, Artificial Intelligence (AI), and other data-driven approaches in in-process control and in-situ monitoring
- Standardization of in-situ monitoring and in-process control
- Recent technologies for In-situ monitoring of AM processes



Symposium Organizers

- Darren Beckett, Sigma Additive Solutions, USA
- Ajay Krishnan, EWI, USA
- Abdalla Nassar, John Deere, USA
- Niklas Prätzsch, Fraunhofer Institute for Laser Technology (ILT), Germany



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