

Additive Manufacturing and big data mining: opportunities and challenges of in-situ monitoring and qualification

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The attention towards in-situ sensing in Additive Manufacturing has dramatically increased over the last years, paving the way to a paradigm shift for quality monitoring and control via big data analysis of signals, images and videos. In-situ quality monitoring represents an opportunity for waste reduction and costs savings via inline detection of process flaws, which allows early identification of scraps and the possibility to correct process parameters for a first-time-right production.

This contribution outlines potential advantages on in situ monitoring in metal AM for defect detection, monitoring and prevention with special attention to space applications.