

Additive Manufacturing: Applications of Measurements in Simulations

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Multi-physics models and simulations are key tools to enhance the efficiency or quality of additive manufacturing (AM) processes, predict otherwise immeasurable but important phenomena, or to simply better understand the complex underlying process physics. Of course, simulations must be connected to reality through carefully acquired empirical results, i.e., comparison to physical measurements. These are necessary to develop, understand, validate, and ultimately trust AM simulations. Additionally, simulation results may be used to inform the design of the measurement systems or process control strategies. This symposium brings together AM measurement and simulation experts to investigate the best approaches for comparing physical measurements and simulations.

Subject matter may include:

- Use of experiment data to design, inform, or validate AM models or simulations
- Methods and metrics for comparing simulation and measurement results
- Using simulation or model output in conjunction with measurement systems in process control
- Using simulation output to improve or inform the design, implementation, or processing of measurement systems