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Mechanical Engineering Seminar Series

Enhancing Process Control in Metal 3D Printing

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Physical & Life Sciences Directorate
Lawrence Livermore National Laboratory*



Tuesday, November 9, 2021

Room 3150 DOW

4:00 p.m.

This seminar will also be streamed live at the following link

[ME Seminar Zoom link](#) (QR Code below)

Password 413824



Abstract

In this talk I will review recent developments in understanding and controlling light-matter interaction and material response associated with laser powder bed fusion additive manufacturing. As part of the critical assessment of the physics of the process, validated hydrodynamic finite element model simulations have proven to be extremely valuable and can be used to inform rapid solidification microstructural models. I will also discuss new approaches to process optimization that have emerged from our modeling efforts which can improve material properties and part performance. Prepared by LLNL under Contract DE-AC52-07NA27344.

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