



Mechanical Engineering Seminar Series

An Introduction to Metals Additive Manufacturing

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2147 GG Brown

Abstract

Metals Additive Manufacturing aka 3D printing has recently become a viable method of manufacturing for industry. Additive Manufacturing offers a tremendous opportunity to impact the current methodologies for parts production, complexity, and part count reduction. Much of this opportunity has come because of the advances in computing power and equipment controls. This presentation will provide a general overview of modern Metal Additive Manufacturing (MAM). A brief history of modern MAM and terminology will be presented, this will be followed by a discussion of the advantages and disadvantages of AM. The common process will be described and shown with animations and videos. Some concepts for designing with AM to achieve its benefits will be discussed and the properties and microstructures will be briefly described. Post processing and quality requirements will also be described. The presentation will be close with a brief discussion of opportunities for the future

Bio

Dr. Paul S. Korinko, Advisory Scientist, Savannah River National Laboratory

Dr. Korinko is an advisory scientist at the Savannah River National Laboratory. He has been the lead materials scientist for Metal Additive Manufacturing since SRNL entered the field. Dr. Korinko has lead projects in pinch welding, a solid state spot welding process, hydrogen effects in additive manufactured stainless steel, development of stainless steel additively manufactured process tubing, lattice manufacturability using electron beam powder bed fusion processes, passivation treatments for stainless steel, and other physical metallurgy based projects.

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