

Advanced Additive Manufacturing of Metallic Materials

*T.A. Palmer

Abstract:

Additive manufacturing (AM) technologies enable the creation of novel structural designs, material combinations, and versatile components to be used in the manufacture of materials. Low commodity prices and high project development costs are current challenges faced in manufacturing. AM offers powerful solutions through part consolidation, low production volume, rapid prototyping, and repairs of corrosion resistant, high strength, and creep resistant materials. Current research focuses on studying how process-property-structure relationships can enhance component performance. The development of these relationships will be a key motivational component in the development of AM technologies across a range of industries.