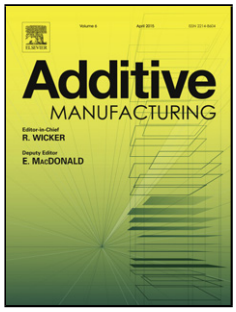

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Anisotropy of Thermal Conductivity in 3D Printed Polymer Matrix Composites for Space Based Cube Satellites

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Abstract

Polymer extrusion three dimensional (3D) printing, such as fused deposition modeling (FDM), has recently garnered attention due to its inherent process flexibility and rapid prototyping capability. Specifically, the addition of electrical components and interconnects into a 3D printing build sequence has received heavy interest for space applications. However, the addition of these components, along with the thermal load associated with space-based applications, may prove problematic for typical thermally insulating 3D printed polymer structures. The work presented