

MS Thesis Defense Announcement
Mechanical and Aerospace Engineering Department
University of Texas at Arlington

Characterization of 3D printed PLA with the help of
Mechanical, Di-electric and X-ray Diffraction techniques

By

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Abstract

Additive manufacturing (AM) revolutionized many industries, i.e., Automotive, Biomedical, Aerospace and Defense. As opposed to traditional manufacturing methods, a part is manufactured layer by layer from 3D CAD models in AM. Though the vision of AM is impressive, there are many challenges that are hindering the widespread use of these complex parts. One of the main challenges is its strength that varies with different manufacturing parameters. We are going to investigate the effect of build parameters on the mechanical, electrical and crystalline properties of the additively manufactured heterogeneous material system. The goal of the thesis is to find a correlation between the Mechanical (MTS), Di-Electric and Crystalline (XRD) properties of the 3D printed PLA at varying engineering parameters and find a way to improve these properties by changing the manufacturing parameters.