



## Homogenization Of Material Properties In Additively Manufactured Structures

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### The Invention

A method for estimating a material characteristic of an article includes receiving a material property tensor having an associated reference direction. A tool path model of an additive manufacturing process for manufacturing the article is received. A geometric model is generated based on the tool path model defining a plurality of roads arranged in layers. For each of the roads, the material property tensor is rotated to align the reference direction with a direction of a selected road and an estimated material property value is assigned to the selected road to generate a first geometry-material model of the article.

### Additional Information

#### For More Information About the Inventors

- [Vadim Shapiro](#)

#### Tech Fields

- [Engineering : Additive manufacturing](#)
- [Information Technology : Computing methods, software & machine learning](#)

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