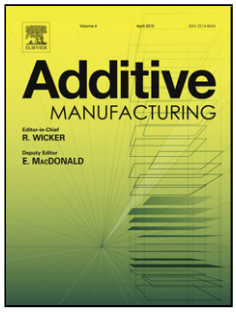


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# Density variation in binder jetting 3D-printed and sintered Ti-6Al-4V

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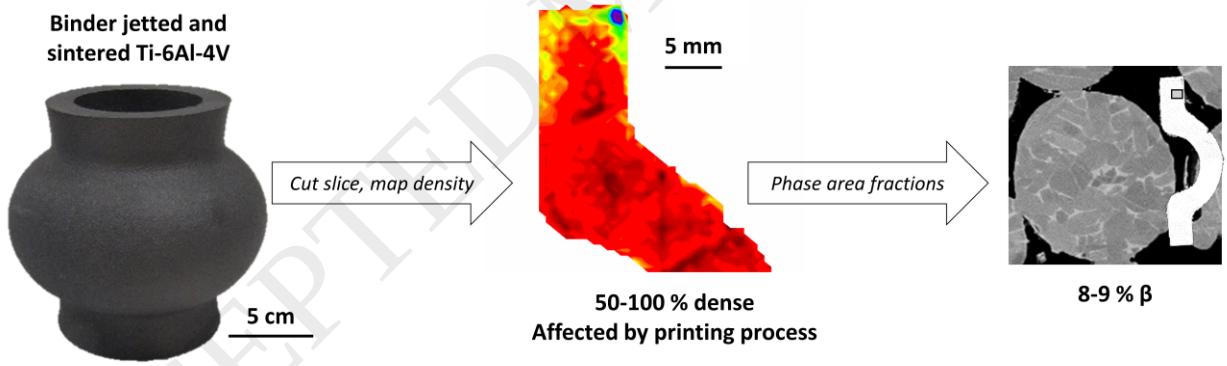
**Graphical Abstract:**




**Abstract:**
Binder jet printing is one additive manufacturing technique utilized in today's industry that uses an adhesive to bind powders together selectively in a bed. Post-printing processes are necessary for binder jet printed parts to increase key properties in materials such as density, but the full effects of this post-processing are not yet well understood. This study aims to enhance the understanding of how the process of sintering can affect the density evolution of a Ti-6Al-4V binder jet printed part. Results show that the density is lower at the edges of the part and higher in regions of significant topological curvature, likely due to variations originating from the printing process that are propagated. These printing process effects can be due to binder- or powder-related