Stochastic prediction of apparent compressive stiffness of selective laser sinstered lattice structure with geometrical imperfection and uncertainty in material property

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Highlights

- Imperfections happened when unexperienced product was manufactured by SLS without know-hows
- Geometrical imperfections are measured statistically associated with manufacturing parameters.
- Random physical parameter are set based on the scattering of measured density.
- Numerical results on the reduction ratio of the stiffness are compared with experimental results, and both coincid qualitatively.
- The proposed method is helpful because property of product can be predicted before manufacturing.