

Topology optimization of additive manufactured cellular structures by homogeneization method

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Mots-clés : topological optimization, homogeneization method, cellular structures, additive manufacturing, lattices

Additive manufacturing techniques allow fabrication of complexer structures than traditional techniques. Thus, lattice materials have been very studied in topological optimization, but these structures do not respect every constraint of additive manufacturing process, such no inclusion, in which metal powders would be retained. We propose here to consider pseudoperiodic cellular structures to solve these problem. The poster will introduce the homogenization method applied in shape optimization and the different class of cellular structures in 2D en 3D. Finally we will present our computational results and a short comparison with the optimal lattices structures.

Références

- [1]
- [2]
- [3]
- [4]