

**Investigating the issues associated with numerical calibration methods for obtaining eigenstrains in additive manufacturing simulation with emphasis on the cantilever beam approach.**

ABSTRACT

The Implimentation of 3D printed metallic parts at industrial level is a key technological milestone in additive manufacturing industry. The fact of being unable to predict accurately the residual stresses and distortion of metallic parts poses a treat to the actualization of this goal. This paper is aimed at investigating the issues associated with the numerical calibration methods of obtaining eigenstrains for additive manufacturing simulation. It focuses on the utilization of the cantilever beam approach in thermo-mechanical analysis to determine the required deformation and eigenstrains. A discriptive approach was adopted through surveys and fact-finding from different range of companies with experience in this method.