Background: Composition variation exists throughout the AM process and may lead to fail builds.

Optimization evaluation: Optimized composition shows near 100% successful build and the printed sample has better property than design criteria.

Results & Discussion: Study the influence of composition uncertainties in properties of HSLA115.

Hypothesis: By performing high-throughput CALPHAD-based process-structure-property calculation, the optimized composition that is robust to composition variation can be discovered.

References:
- Sridar, Soumya, et al., Parameter optimization and post heat treatment design for copper bearing high strength low alloy steels processed using laser powder bed fusion technique, unpublished manuscript.

Acknowledgements