

Bachelor- / Master Thesis

Topic: Numerical study on point melting strategy for electron beam powder bed fusion of CMSX-4

Commencement: as soon as possible

Abstract: SAMPLE^{3D} is an in-house developed experimentally validated software for predicting the grain structure of nickel-base superalloys processed by powder bed fusion. So far, previous simulations have used line scan strategies. Point melting is emerging as a novel processing strategy for powder bed fusion. However, the effect of different point melting strategies on the grain structure of CMSX-4 remains unclear. This thesis should design different point melting strategies and perform SAMPLE^{3D} simulations to investigate their effects. This work does not include any modeling tasks, but basic knowledge of Python and MATLAB is highly desired for analysis.

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