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Research Area: Computational Materials Science

Sintering is a process in which particles of a material in powder form are fused together at temperatures below the melting point. This project is aimed at studying the microstructure evolution during the sintering process of crystalline materials (i.e., powdered metals), and involves the development of a three-dimensional phase field model to simulate the evolution of the microstructure. Initial work will involve development and testing of a serial code, and later efforts will be focused on developing a parallel code for improved efficiency. The phase field model will be used to develop a better understanding of the microstructure evolution during sintering.

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