Influence of Convection on Microstructure Evolution during Solidification

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Outline

- Solidification
- Importance of convection and need for incorporating it in model - defects like feckle formation
- Introduction to PF -Idea of Functional, elaboration in bullets - eg - football, fracture etc.
- Model Description - ϕ and μ evolution - highlight driving force and mass conservation
- one D and two D growth and Gibbs-Thompson

- Incorporating Anisotropy by modifying functional
- Discretisation and implementation - Simulation Results
- Modifying Mass Conservation and incorporating Fluid Flow
- Implementation and Check Cases
- Conclusion and Future Plan

- Solidification is big chunk of material processing
- Micorstructure evolution very non uniform and process dependant
- Establish Process- Micro correlation
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Thank You