Bachelor-/ Masterthesis

Modelling of the sintering process of pm steels with the Monte Carlo Method

Project description
The powder-metallurgical process chain offers the precise and economical production of complex components made of iron-based materials. The component’s properties strongly depend on the microstructure which evolves during sintering. This evolution can be modelled with the Monte Carlo Method. In the scope of this work, an existing simulation model is to be further developed based on experimental findings and its applicability to sintered steel has to be investigated.

Your Tasks
- Creation of microstructure models
- Parameterization of the simulation model
- Implementation of an algorithm to model phase transformation
- Extend the experimental data base with further investigations

Your Profile
- ability to work autonomously
- basic knowledge of the sintering process
- basic programming knowledge

What we offer
- a comprehensive introduction into the topic and support during your work
- a pleasant work atmosphere
- you will be supported to finish your thesis in a timely manner

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