Phase Transformations

Lecture for “Mechanical Engineering” and “Materials Science and Engineering”
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Assessment of Phase Transformations

In order to assess phase transformations following aspects might be important to consider:

- What are the relevant thermodynamic potentials for the phase transformation?
- What is the driving force for the process?
- Does an activation barrier for the transformation to occur exist or is it spontaneous? What are the contributions to the energy barrier?
- How does the transformation occur? Is there an interface between the newly formed phase and the matrix or does it occur as fluctuations?
- How does the interface propagate in space during the transformation?
- Is there any interaction between matrix and newly formed phase?