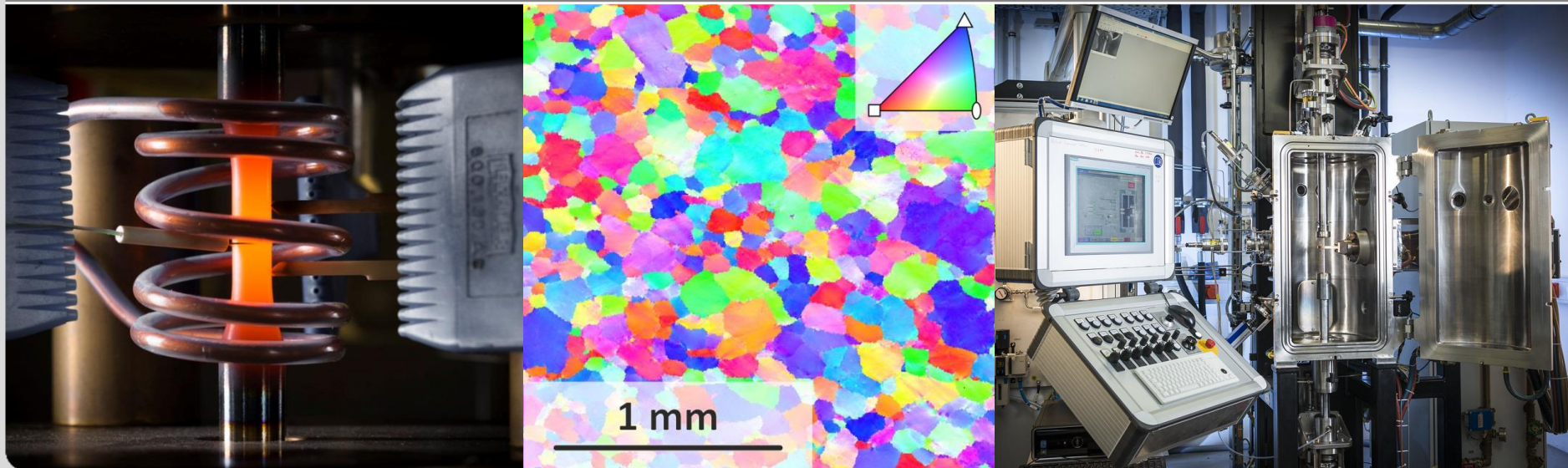


Phase Transformations

Lecture for “Mechanical Engineering” and “Materials Science and Engineering”
Dr.-Ing. Alexander Kauffmann (Bldg. 10.91, R. 375)

Contributions by M.Sc. Stephan Laube are acknowledged. 12

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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?