

Tutorial problems and questions

1. Ledge growth mechanism is an example controlled growth.

Answer

Interface

2. Order-disorder transformation involves diffusion.

Answer

short-range

3. Martensitic twining is a thermally activated process. True or false?

Answer

False. It is an athermal process.

4. Is grain growth a military transformation?

Answer

No. It is a civilian transformation.

5. Consider a transformation that involves the evolution of latent heat. What is the order of such a transformation?

Answer

Any transformation that involves evolution of latent heat will have a discontinuity in the first derivative of the free energy. Hence, it is a first order transformation.

6. Consider a transformation in which there is a large volume change during transformation. What is the order of such a transformation?

Answer

Volume changes during a transformation indicate that the first derivative of the free energy is discontinuous. Hence, it is a first order transformation.