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Homework for Lecture 19, 20

Consider the cellular precipitation (i.e., eutectoid transformation) of α -Fe and Fe_3C (cementite) from super-saturated γ -Fe (austenite phase), for which we assume the phase transformation (i.e., the growth of interface) occurs by diffusion through either α or γ . It was observed that the growth rate of the interface is $10 \text{ \AA}/\text{sec}$ when the inter-lamellar spacing (i.e., the wavelength, λ) is $\lambda=5000 \text{ \AA}$, and the growth rate becomes $15 \text{ \AA}/\text{sec}$ when the inter-lamellar spacing is $\lambda=10000 \text{ \AA}$. What is the maximum of the growth rate and at what inter-lamellar spacing?