

Morphological Stability of Directional Solidification under Temperature Modulations**C.A. Chung**, K.H. Ho, W.Z. Chien*Dept. of Mechanical Engineering, National Central University, Taiwan*

We study the instability of a planar solid-melt interface during directional solidification of a binary mixture. The molten zone is oscillated by an imposed temperature modulation. The basic state is solved analytically with the bulk melt quiescent by expanding the governing equations in terms of the small amplitude of modulation. A preliminary investigation on the morphological instability of the basic state is presented.

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