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**Contact melting and the structure of binary eutectic
near the eutectic point**

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Abstract. Computer simulations of contact melting and associated interfacial phenomena in binary eutectic systems were performed on the basis of the standard phase-field model with miscibility gap in solid state. It is shown that the model predicts the existence of equilibrium three-phase (solid-liquid-solid) states above the eutectic temperature, which suggest the explanation of the phenomenon of phase separation in liquid eutectic observed in experiments. The results of simulations provide the interpretation for the phenomena of contact melting and formation of diffusion zone observed in the experiments with binary metal-silicon systems.

Key words: phase field, eutectic, diffusion zone, phase separation

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