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The role of the pre-exponential factor in the segregation profiles of Cu(111)-SnSb and Cu(100)-SnSb ternary alloys

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A Cu(111) and Cu(100) were thermally doped with the same concentrations of Sn (0.14 at%) and Sb (0.12 at%) in both crystals. Auger electron spectroscopy was used to measure the segregation profiles. The segregation parameters of Sn and Sb were extracted by comparing simulated profiles with the experimental data. The segregation profiles in the two crystals were compared and it was found that the profiles of both Sn and Sb in Cu(111) shifts to lower temperatures than those in Cu(100). The quantified segregation parameters were used to explain the shift. It is argued that changes in the pre-exponential diffusion factors, rather than the activation energies, is the main contributing parameter.

Apply to be considered for a student award (Yes / No)?

No

Level for award (Hons, MSc, PhD, N/A)?

N/A

Would you like to submit a short paper for the Conference Proceedings (Yes / No)?

Yes

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