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Sn and Sb segregation in single and polycrystalline Cu

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**Abstract content
 (Max 300 words)**

Ternary alloys Cu-(100) and Cu-(111) single crystals and a Cu polycrystalline were doped with the same concentrations of 0.14 at.% Sn and 0.12 at.% Sb. A linear temperature ramp was used to heat each of the samples at a constant rate of 0.05 K/s while the surface concentrations were monitored simultaneously by Auger electron spectroscopy. The segregation parameters of Sn and Sb in the three samples were determined by simulating the experimental data with the modified Darken equations. It was found that the Sn surface fractional concentration, in the low index Cu, peak around 700 K and in the polycrystalline sample the peak was much reduced and at a higher temperature around 780 K. On the other hand, the Sb segregated profiles in the three samples follow the normal Cu-Sb binary alloy profile with the same equilibrium temperature region. The quantified segregation parameters will be used to explain the Sn and Sb profiles.

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yes

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