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Monte Carlo simulation of Pt-Al binary alloy thin films

Pt-Al thin films (Pt₂₅Al₇₅, Pt₅₅Al₄₅ and Pt₆₃Al₃₇) were prepared and heat treated at various annealing-temperatures and times. Elemental maps and depth profiles were obtained with a PHI 700 nanoprobe. A chemical potential Monte Carlo model was developed and simulations were run. Theoretical depth-profiles and microstructures were obtained. Comparisons between experimental and theoretical results show good correlations.

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