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# Influence of Electric Field on the Quenched-in Vacancy and Solute Clustering during Early Stage Ageing of Al-Cu Alloy

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The effects of electric field on the evolution of excess quenched-in vacancy as well as solute clustering in Al-4wt%Cu alloy, and on the vacancy migration and formation enthalpy of pure aluminum were investigated, using positron annihilation lifetime spectroscopy, high-angle annular dark-field scanning transmission electron microscopy, transmission electron microscopy, hardness measurement and four-probe electrical resistivity measurement. The results showed that the electric field improved age hardening response obviously and postponed the decay of excess vacancies for 30 min during the

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