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**James O'Beirne\*** (jobeirn1@gmu.edu). *Modeling Phase Separation in Ternary Alloys.*

We examine a type of phase separation called nucleation which occurs after an alloy is quenched. Nucleation is characterized by the formation of discrete droplets of an individual material speckled throughout the otherwise homogeneous domain; this process weakens the composition and diminishes the value of the material. We simulate this phenomenon using the Cahn-Morral model by employing numerical continuation via AUTO. (Received September 21, 2009)