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Simulations of the Time Dependent Crystallization of Amorphous

Thin Films GEORGE WANG, ANDREAS BILL, Cal State Univ- Long Beach — We recently developed an analytic theory that determines the non-equilibrium grain size distribution during the crystallization of an amorphous solid. One of the key new elements introduced in the theory is a time-dependent effective growth rate. We present numerical simulations of the crystallization process and the growth rate for the isotropic nucleation and growth model of thin films. The simulation yields the functional form of the grain size distribution and the effective growth rate and their dependence on time and microscopic parameters of the system.

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