

Abstract Submitted
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Spacing distribution functions for 1D point island model with irreversible attachment¹ DIEGO GONZALEZ, THEODORE EINSTEIN, University of Maryland, ALBERTO PIMPINELLI, University of Maryland and Science Attache, French Consulate, Houston — We study the configurational structure of the point island model for epitaxial growth in one dimension. In particular, we calculate the island gap and capture zone distributions. Our model is based on an approximate description of nucleation inside the gaps. Nucleation is described by the joint probability density $p_n^{xy}(x,y)$, which represents the probability density to have nucleation at position x within a gap of size y . Our proposed functional form for $p_n^{xy}(x,y)$ describes excellently the statistical behavior of the system. We compare our analytical model with extensive numerical simulations. Our model retains the most relevant physical properties of the system.

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