**Phase-field modeling of epitaxial growth in stochastic systems with interacting absorbate**

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A molecular beam epitaxy is one of the most typical example of the modern technology for growing single crystals that inherits atomic structure from substrate. We study epitaxial growth of pyramidal patterns in stochastic systems with interacting adsorbate within the framework of phase field approach based on the Burton-Cabrera-Frank model.

Studying the system behavior we have used three statistical criteria related to interface width, skewness, and kurtosis. It was shown that the system dynamics is governed by the interaction strength of adatoms and the noise intensity of the total flux fluctuations. We have shown that the noise action can crucially change processes of pyramidal pattern formation.

Scaling behaviour of the height-height correlation function is discussed. It was shown that there is a set of scaling exponents governing universal behavior of space- and time-correlation functions. In other words a more complicated form of the height-height correlation function than the simplest power-law approximation is realized.