

In the presented work we study Al and Sn on a Si(100) $2\times 1$  surface by means of STM. Peculiarities of displaying and morphology of metallic structures are investigated. Utilizing the STM to investigate Al and Sn, we obtain the growth characteristics for various coverage and temperatures at deposition. It is shown, that island size distribution is scalable for both metals and has a qualitatively different character. In order to interpret the growth characteristics and obtain unknown microscopic parameters, a new software tool for kinetic Monte Carlo (kMC) simulations of aluminum was conceived.