Abstract Submitted
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Film Growth on Nanoporous Substrate[1] XUE ZHANG, JAMES JOY, CHENWEI ZHAO[2], Brown University, Department of Physics, J.M. XU, Brown University, School of Engineering, JAMES VALLES, Brown University, Department of Physics — Self-ordered nanoporous anodic aluminum oxide (AAO) provides an easy way to fabricate nano structured material, such as nano wires and nano particles. We employ AAO as substrates and focus on the thermally evaporated film growth on the surface of the substrate. With various materials deposited onto the substrate, we find the films show different structures, e,g. ordered array of nano particles for Lead and nanohoneycomb structure for Silver. We relate the differing behaviors to the difference of surface energy and diffusion constant. To verify this, the effect of substrate temperature on the film growth has been explored and the structure of the film has been successfully changed through the process.

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