

Nanoscale Structures and Devices Fabricated Using Anodic Aluminum Oxide Templates

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Anodic Aluminum Oxide (AAO) has been shown to be a versatile material for the development of nanoscale structures. It is characterized by a well ordered hexagonal array of pores with diameters of 50 nm and an inter-pore spacing of 105 nm. Thin, ≤ 500 nm, AAO films are routinely used as templates for depositing on, or sputtering of, an arbitrary substrate. Further, the AAO films are used to fabricate isolated structures and devices by filling the pores with suitable materials. We will present recent work on deposited nanodot arrays for tribological applications as well as the fabrication of isolated electrodes for the realization of nano-battery arrays.