



Ordered arrays of metal nanotubes in semiconductor envelope

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Abstract

We report on fabrication of metal nanotubes in semiconductor nanotemplates possessing ordered two-dimensional hexagonal arrays of pores grown in n-InP crystalline substrates using anodic etching in neutral electrolyte. Electrochemical pulsed deposition of arrays of Pt nanotubes with diameters of 70 and 140nm is demonstrated. The produced metallo-semiconductor tubular structure behaves like a layered nanomaterial allowing one to easily cleave thin films consisting of rows of Pt nanotubes in semiconductor envelope.