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Electrochemical Deposition by Design of Metal Nanostructures

Abstract –

We report on the application of specially-designed masks for the purpose of electrochemical etching of InP single crystals which enables one to change in a controlled fashion the direction of propagation of pores, including those propagating

in directions parallel to the top surface of substrates. The fabricated templates have been used to electrochemically deposit metallic nanostructures along predefined directions and to develop two-dimensional arrays of metallic nanotubes or nanowires embedded in semiconductor matrices.