

Electrochemical pore etching in Ge

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Abstract

Nucleation and growth of electrochemically obtained pores on (111) and (100) oriented n-Ge in different electrolytes was investigated. On rough surfaces pore density increases as the current density increases, whereas on smooth surfaces the situation is inverse, i.e., the pore density increases as the current density decreases. The macropores show strong anisotropic features with a cone-like shape. This can be understood if the passivation of the pore walls in Ge is less pronounced as in the case of Si or III–V compounds, but strongly anisotropic.