

Effect of electrochemical etching solution composition on properties of porous SiC film

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Abstract: Porous amorphous SiC (a-SiC) layer with pore size in the nanometer region was fabricated on the a-SiC/Si substrates by the electrochemical etching method using HF/H₂O/surfactant solution. Systematic study showed that the HF concentration in the etching solution (in the 1-73% region) strongly affects the structure (both the pore size and the pore density) of the porous a-SiC layer. It was also observed the changing of the photoluminescence properties of the porous a-SiC layer when its structure has been changed. © 2009 IOP Publishing Ltd.

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