

Electron beam irradiation effects of graphene layers grown on 6H-SiC(0001)

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Graphene layers grown on 6H-SiC(0001) were irradiated with 1 MeV electron beam to functionalized its surface. Surface morphology change of atomic force microscopy and near edge X-ray adsorption fine structure spectra of C K-edge show that graphene layer was changed by the electron beam irradiation and induced C-O related chemical structures. But Si 2p core-level spectra show a negligible effect upon electron beam irradiation. These suggest that even though graphene layer was reacts with the electron beam, it acts as protection layer on SiC wafer.