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Surface and Interface studies of Au overlayers on 4H-SiC(000-1)
CHARIYA VIROJANADARA, I, LEIF JOHANSSON, IFM, Linkoping University, S-581 83, Linkoping — The effects of Au overlayers prepared on the SiC(000-1) surface have been investigated. A 2x2 reconstructed surface was prepared by Si deposition at substrate a temperature of 800^oC. A 3x3 reconstructed surface was prepared by in situ heating to ca 1050^oC. By utilizing high resolution photoemission and synchrotron radiation together with low energy electron diffraction, the formation of ordered overlayer structures was identified and features developing in the Si 2p, C 1s and Au 4f core level spectra were investigated in detail. After Au deposition on the 2x2 reconstructed surface and annealing a new stable $\sqrt{7}$x$\sqrt{7}$ R 19^o surface reconstruction was identified by LEED and surface related components were observed in Si 2p and Au 4f core levels. After Au deposition on the 3x3 reconstructed surface and annealing no new stable reconstruction was observed to form. In the C 1s core level no significant changes were possible to detect after Au deposition and annealing. These findings will be presented and discussed.

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