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Surface and Interface studies of Au overlayers on 4H-SiC(000-1)
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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°C. A 3x3 reconstructed surface was
prepared by in situ heating to ca 1050°C. By utilizing high resolution photoemission
and synchrotron radiation together with low energy electron diffraction, the forma-
tion 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 $\sqrt{7}x\sqrt{7} R 19^\circ$ surface
reconstruction was identified by LEED and surface related components were ob-
served 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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