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The effects of vacuum annealing on the surface of 6H- SiC studied using Positron Annihilation induced Auger Electron Spectroscopy SAURABH MUKHERJEE, MANORI NADESALINGAM, BRIAN DAVIS, University of Texas, Arlington, GERHARD BRAUER, Institut for Ionenstrahlphysik und Materialforschung, Rossendorf, Germany, ALEXANDER WEISS, University of Texas, Arlington — The effects of vacuum annealing on the surface of 6H- SiC surface has been studied by Time of Flight –Positron Annihilation induced Auger Electron Spectroscopy (TOF-PAES). Meas urements were performed using a time of flight PAES spectrometer that was capable of moni toring the top layer surface concentrations of C, O and Si. The results indicate that the SiC surface was initially covered with a layer containing oxygen but largely devoid of Si which was subsequently removed as a result of vacuum annealing to expose Si and C in the top layer. The study was the first application of a TOF-PAES spectrometer to the SiC surface and clearly demonstrated the utility of PAES in the study of the surface modification of SiC.

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