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Surface core-level shifts and atomic coordination at the W(320) surface[1] XUBING ZHOU, J.L. ERSKINE, Department of Physics, University of Texas at Austin, O. KIZILKAYA, Center for Advanced Microstructures and Devices — High resolution 4 $f_{7/2}$ Core-level photoemission spectra are reported from the W(110) and from the related vicinal W(320) surfaces. Curve fittings of the spectra permit tests of core-level binding-energy shift models that relate local atomic coordination to binding -energy differences associated with (for example) terrace and step-edge atoms. A well-resolved shoulder on the W(320) surface peak is attributed to step-edge atoms and contributions from surface atoms having higher atomic coordination are obtained from the curve-fitting exercises. The results are discussed in relation to prior core-level measurements, tight-binding models, and ab-initio calculations of core-level shifts for W(320).

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