

Abstract Submitted
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Soft X-Ray Spectroscopic studies of Intrinsic Quantum Well States, Shallow Core Level Hybridization, and Valence Band Structure in CdO and InN¹ L.F.J. PIPER, L. COLAKEROL, A. DEMASI, T.D. MOUSTAKAS, K.E. SMITH, Boston University, J. ZUNIGA-PÉREZ, V. MUNOZ-SANJOSÉ, Universitat de Valncia, ALEXEI FEDOROV, Advanced Light Source, LBNL, T. VEAL, C. MCCONVILLE, University of Warwick — InN and CdO are post-transition metal compounds that display significant metal-ligand shallow core level hybridization [1], and have recently been discovered to possess intrinsic quantum well states in electron accumulation layers near their surfaces [2]. We report here new synchrotron-based soft x-ray spectroscopic measurements of the electronic structure of CdO and InN single crystal thin films. Resonant x-ray emission spectroscopy has been employed to study the detailed valence band and shallow core level electronic structure, while high resolution angle-resolved photoemission spectroscopy was used to measure quantized electron subbands at the near-surface of both InN and CdO. [1]. L.F. J. Piper *et al.*, Phys. Rev. B (2007) *in press*; [2]. L. Colakerol *et al.*, Phys. Rev. Lett. 97, 237601, (2006)

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Kevin Smith
Boston University

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