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**Abstract**

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**The relationship between the crystallographic order and electronic structure of mercury thin films**

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**Abstract**

Thin (1–7 monolayer) well ordered, disordered, and liquid Hg overlayers on Ag (100) have been investigated with angle resolved photoemission and low energy electron diffraction. The well ordered overlayers exhibit new electronic states as a result of the strained, cubic, overlayer crystallographic structure. The photoemission cross section of the electronic states depends on the overlayer long range crystallographic order and cannot be explained by photoelectron diffraction. The new electronic states depend upon the long range crystallographic order of the overlayer not simply the local crystallographic symmetry, a heretofore unreported result.

**Article Outline**

## • References

<sup>1</sup> NSF Presidential Young Investigator, affiliated with the University of Texas for portions of this work.



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