

Abstract Submitted  
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**The Possibility of a Structural Quantum Critical Point in  $\text{LaCu}_{6-x}\text{Au}_x$**  L. POUDEL, Univ of Tennessee, Knoxville and Oak Ridge National Laboratory, A. F. MAY, Oak Ridge National Laboratory, M. KOEHLER, Univ of Tennessee, Knoxville, C. DE LA CRUZ, M. A. MCGUIRE, S. CALDER, Oak Ridge National Laboratory, V. KEPPENS, Univ of Tennessee, Knoxville, D. MANDRUS, A. D. CHRISTIANSON, Univ of Tennessee, Knoxville and Oak Ridge National Laboratory — Understanding the critical phenomena near a quantum critical point (QCP) has attracted a substantial interest from the condensed matter physics community. Despite this interest, QCPs involving the zero temperature termination of a continuous structural phase transition remain largely unexplored. Here, we study the structural properties of the  $\text{LaCu}_{6-x}\text{Au}_x$  series, which appears to be an ideal candidate to exhibit a SQCP. The orthorhombic-monoclinic transition temperatures in  $\text{LaCu}_{6-x}\text{Au}_x$  decrease with Au-composition until a complete suppression of the monoclinic phase occurs at the SQCP,  $x = 0.3$ . The lattice component of the low-temperature heat capacity exhibits a maximum at the critical concentration, providing a further indication of the presence of a SQCP in the  $\text{LaCu}_{6-x}\text{Au}_x$  series.

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