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Local Structure Around Sn in $CeCoIn_{5-x}Sn_x$ MILLION DANIEL, Lawrence Berkeley National Laboratory, ERIC D. BAUER, Los Alamos National Laboratory, SANG-WOOK HAN, CORWIN H. BOOTH, Lawrence Berkeley National Laboratory, ANDREW L. CORNELIUS, University of Nevada Las Vegas, JOHN L. SARRAO, Los Alamos National Laboratory — $CeCoIn_5$ is an ambient pressure superconductor with a transition temperature of 2.3 K. Recent experiments have shown that superconductivity is easily destroyed with the replacement of In with Sn. The role of Sn on the superconducting state in the $CeCoIn_{5-x}Sn_x$ alloy has been investigated by the extended x-ray absorption fine structure (EXAFS) technique. Our fit results for $x = 0.09$, 0.12, 0.18, and 0.24 show a major fraction of the dopant Sn atoms preferentially residing on the planar In(1) site. This result is consistent with the two-dimensional superconducting state in $CeCoIn_5$ and will be discussed in relation to the observed rapid suppression of superconductivity in the $CeCoIn_{5-x}Sn_x$ system.

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