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QPI in $Sr_3Ru_2O_7$. JINHO LEE, University of St. Andrews, Cornell University, M. WANG, Cornell University, M. ALLAN, University of St. Andrews, A. SCHMIDT, Cornell University, F. BAUMBERGER, A. TAMAI, J. FARRELL, University of St. Andrews, J. C. DAVIS, Cornell University, Brookhaven National Laboratory, A. MACKENZIE, University of St. Andrews — $Sr_{n+1}Ru_nO_{3n+1}$ family drew substantial attention recently due to its plethora of electronic phases like triplet superconductivity or metamagnetism. $Sr_3Ru_2O_7$ (n=2) is very similar to the triplet superconductor Sr_2RuO_4 in 2D conductivity as well as in structure, but shows no superconductivity. Understanding of the underlying band structure is the first step to fathom this strongly correlated oxide. STM has proven to be a high precision tool to measure band dispersions in momentum space along with the atomically resolved real space spectroscopic properties. Here we report the first atomically resolved 2D spectroscopic maps in $Sr_3Ru_{2(1-x)}Ti_{2x}O_7$ where QPI patterns are observed and discuss the band landscape responsible for the QPI in this energy range.

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