Mott Physics in lightly doped \((\text{Sr}_{1-x}\text{La}_x)_3\text{Ir}_2\text{O}_7\) GREGORY AFFELDT, TOM HOGAN, University of California, Berkeley and Lawrence Berkeley National Laboratory, CHRISTOPHER SMALLWOOD, University of California, Berkeley, TANMOY DAS, Los Alamos National Laboratory, JONATHAN DENLINGER, SUNG-KWAN MO, Lawrence Berkeley National Laboratory, STEPHEN WILSON, University of California, Santa Barbara, ALESSANDRA LANZARA, University of California, Berkeley and Lawrence Berkeley National Laboratory — The layered perovskite iridates \(\text{Sr}_2\text{IrO}_4\) and \(\text{Sr}_3\text{Ir}_2\text{O}_7\) exhibit a spin-orbit Mott insulating state that becomes metallic upon sufficient carrier doping. While \(\text{Sr}_2\text{IrO}_4\) presents striking similarities to cuprates upon electron doping, \(\text{Sr}_3\text{Ir}_2\text{O}_7\) appears to be a correlated metal. We show a detailed doping and temperature-dependent ARPES study which reveals important similarities between \((\text{Sr}_{1-x}\text{La}_x)_3\text{Ir}_2\text{O}_7\) and doped \(\text{Sr}_2\text{IrO}_4\), as well as other doped Mott insulators.

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