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Angle resolved photoemission study of the strongly correlated metal V_2O_3[1] IRENE LO VECCHIO, Lawrence Berkeley National Laboratory, JONATHAN D. DENLINGER, OLEG KRUPIN, Advanced Light Source (Berkeley), BUMJOON KIM, Max Planck Institut for Solid State Research (Stuttgart), PATRICIA METCALF, Purdue University (Indiana), STEFANO LUPI, University of Rome "Sapienza" (Italy), JAMES W. ALLEN, University of Michigan, ALESSANDRA LANZARA, University of California Berkeley and LBNL — V_2O_3 is often considered as the textbook example for the Mott metal-insulator transition. It has been the playground for multiple theoretical approaches and attempts to describe its metallic ground state for half a century. However, the experimental electronic structure is still unknown because of difficulties related to the three-dimensional character of the Fermi surface and the inhomogeneous cleavage of single crystals. Here we reveal for the first time the band structure of V_2O_3 using angle resolved photoemission spectroscopy. Direct comparison with theory is presented highlighting the important role of electron correlation for the physics of this material.

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