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The Shrinking "Fermi Arc" in Cuprates LIJUN ZHU, C. M. VARMA, University of California, Riverside — The angle-resolved photoemission spectroscopy (ARPES) on cuprates in the pseudogap region reveal an extraordinary topological transition in which the ground state changes from one with a usual Fermi surface to one with four Fermi points. We argue that such a state is not possible without some symmetry breaking which allows interference between one-particle basis states which is normally forbidden. We also show that the experimental results are quantitatively given without any free parameters by a theory and discuss the implications of the results.

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