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Cuprate superconductors with an incomplete Fermi surface trap the magnetic flux[1] HYUN-TAK KIM, ETRI — For cuprate high-T_c superconductors, the pairing symmetry of Cooper pair is still controversial and remains unsolved. This is a central issue for the mechanism of high-T_c superconductivity. For the measurements of flux quantization obtained in the YBCO-Pb corner junction [1], DC-SQUIDS [2,3,4] and in the tricrystal superconducting ring of YBCO [4-6], the results had suggested that the measured half fluxes are strong evidence of the dx^2-y^2 (or d) pairing symmetry. This has still an influence on the superconductor mechanism research. At this time, we feel reanalysis of the measured half-flux-quantum data, because of the unclear analysis on flux trap in the papers. The authors [1-7] also suggested that the measured half-flux quantum comes from supercurrent induced by the superconducting ring. However, we find asymmetry of the Fraunhofer diffraction pattern, an anomalous large supercurrent, anisotropy in the half-flux quantum SQUID image. These are evidence of flux trap denying the *d*-wave symmetry. For superconducting crystals with an incomplete Fermi surface, the magnetic flux penetrates through anti-node and is expelled at node and is trapped. We suggest the s-wave pairing symmetry [8]. [1] PRL 74(1995)797, [2] PRL 71(1993)2134, [3] PRL 74(1995)4523, [4] PRL 73(1994)593, [5] Rev. Mod. Phys. 72(2000)969. [6] Science 271(1996)5249), [7] Nature Physics 5, 1 (2005). [8] J. Phys. Soc. Jpn. 71 (2002) 2106.

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