Abstracts

The transition from the d- to s-state due to thermal fluctuation for high-T/sub c/ superconductors as an evidence from the microwave penetration-depth measurement

Li Jui Chen and Juh Tzeng Lue. "The transition from the d- to s-state due to thermal fluctuation for high-T/sub c/ superconductors as an evidence from the microwave penetration-depth measurement." 1998 Transactions on Microwave Theory and Techniques 46.9 (Sep. 1998 [T-MTT]): 1251-1256.

A temperature dependence of the penetration depth /spl lambda/(T) measurement for the high-T/sub c/ superconductors YBa/sub 2/Cu/sub 3/O/sub 7-/spl delta// and Tl/sub 2/Ba/sub 2/CaCu/sub 2/O/sub 7/ thin films elucidates a T/sup 2/ dependence at low temperatures and an exponential dependence at high temperatures. The transition temperature for the shift from T/sup 2/ to exponential dependence decreases as the duration for the samples exposed to air increases. An impurity scattered mechanism to fluctuate a pure d-wave to the s-wave by thermal fluctuation is proposed for the pairing states of these high-T/sub c/ superconducting films.

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