

Abstract Submitted
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Evolution of Low-Energy Andreev States under an Applied Supercurrent in $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ ¹ J. NGAI, P. MORALES, J.Y.T. WEI, Department of Physics, University of Toronto, Toronto ON, Canada — We present scanning tunneling spectroscopy measurements on current-carrying $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ thin-film strips at 4.2K, showing the evolution of the phase-sensitive low-energy Andreev states. In the low-current regime, well below the Landau depairing limit, the Andreev states are anomalously suppressed, suggesting nanoscale dephasing of the d -wave order parameter. Measurements are also made at higher applied current levels to probe possible *local* chiral states in the pairing symmetry. These results will be discussed in the context of order parameter non-rigidity in the high- T_c cuprates.

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