

Abstract Submitted
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Magnetic-state-controlled proximity effect across high- T_C superconductor/ferromagnetic interfaces.¹ C. VISANI, C. DERANLOT, R. BERNARD, K. BOUZEHOUE, J. BRIATICO, J.E. VILLEGAS, Unité Mixte de Physique CNRS/Thales, 1 avenue A. Fresnel, 91767 Palaiseau, France — We have investigated the electronic density of states of a ferromagnet (F: a Co/Pt superlattice) in contact with a c-axis YBCO film. This was done by measuring the current-perpendicular-to-plane differential conductance across vertical junctions of area down to $6 \mu\text{m}^2$, which were fabricated using optical lithography and ion etching. We have found salient features of the leakage of the superconducting order parameter into the F layer, such as a zero-bias conductance peak which can be modulated by the magnetic state of the ferromagnet. We discuss the possibility of triplet superconducting correlations induced in the F layer as the origin of this behavior.

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