

Abstract Submitted
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Magnetic Proximity Effect in Nb-Py-Nb Trilayers¹ JILL PESTANA, JIYEONG GU, California State University, Long Beach — Proximity effect in ferromagnet/superconductor systems has become a center of attention recently. So far most of the work focused on the superconducting property change by magnetism in the hybrid system but only few researches were focused on the magnetic property change by superconductivity. In our current work we focused on the magnetic property change of the system by superconductivity when the system goes through the superconducting transition. We have investigated Nb-Py (Permalloy; NiFe)-Nb trilayers. Nb-Py-Nb thin film samples with different Py layer and top Nb layer thicknesses were fabricated by using Multi-target sputtering system. Magnetization and resistivity were measured by Physical Property Measurement System using the Vibrating Sample Magnetometer (VSM) option. Magnetization changed when the system goes through the superconducting transition. We discuss the magnetic correlations between ferromagnetic and superconducting layers. In addition to the VSM option, the Alternating Current Measurement System (ACMS) method was used to compare the magnetization results.

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