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**Magnetic property change by superconductivity in Py-Nb Hybrid system**<sup>1</sup> DAVID MURAKAMI, MICHAEL HETMAN, JIYEONG GU, Department of Physics and Astronomy, California State University, Long Beach — Recently ferromagnet/superconductor systems have attracted a great attention due to their scientific interest and potential for the technological application. So far, most of the work focused on the superconducting property change by magnetism in the hybrid system, and only few researches focused on the magnetic property change by superconductivity. In this presentation we will focus on the magnetic property change of the system by superconductivity when the system goes through the superconducting transition. We have investigated different types of hybrid structures including Py/Nb bilayer, multilayer, and composite systems. To separate out the signal from superconductor, we also measured the single Nb film. We measured the magnetization as a function of temperature and compared it between in a normal state and a superconducting state for the different types of structures. It showed strong magnetic history dependence.

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David Murakami  
Department of Physics and Astronomy, California State University, Long Beach

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