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**Superconductivity of a Sn film controlled by an array of Co nanowires** ZHIYUAN WEI, ZUXIN YE, DAYA RATHNAYAKA, IGOR LYUKSYUTOV, WENHAO WU, DONALD NAUGLE, Texas A&M University, DEPARTMENT OF PHYSICS TEAM — Superconducting properties of a hybrid structure composed of ferromagnetic Co nanowire arrays and a superconducting Sn film have been investigated. Ordered Co nanowires arrays with 60 nm, 150 nm and 200 nm diameter were electroplated into the pores of self organized anodic aluminum oxide (AAO) membranes. Hysteretic dependence of the Sn film superconducting properties on applied magnetic field and critical current enhancement at moderate fields has been observed. This behavior strongly depends on the ratio of the Sn film thickness to the Co nanowire diameter.

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