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Measurement of Conduction Electron Polarization Via the Pairing Resonance[1] PHILIP ADAMS, YIMIN XIONG, Louisiana State University, GIANLUIGI CATELANI, Yale University — We show that the pairing resonance in the Pauli-limited normal state of ultra-thin superconducting Al films provides a spin-resolved probe of conduction electron polarization in thin magnetic films. A superconductor-insulator-ferromagnet tunneling junction is used to measure the density of states in supercritical parallel magnetic fields that are well beyond the Clogston-Chandresekhar limit, thus greatly extending the field range of tunneling the density of states technique. The applicability and limitations of using the pairing resonance as a spin probe will be discussed.

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Philip Adams
Louisiana State University

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