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**Influence of Spin-Orbit Interactions on Point Contact Andreev Reflection** ION GARATE, ALLAN MACDONALD, University of Texas at Austin — In PCAR (point contact Andreev reflection) the  $I(V)$  characteristics of an interface between a singlet superconductor and a ferromagnetic metal is used (1)(2) to probe the degree of spin-polarization near the Fermi energy of the ferromagnet. Motivated by recent PCAR studies (3)(4) of (III,Mn)V ferromagnetic semiconductors, in which the spin-orbit interaction scale is comparable to the exchange energy scale, we report on a theoretical study the effect of spin-orbit interactions on the quasiparticle current through a ferromagnet-superconductor interface. Our theoretical analysis generalizes the Blonder-Tinkham-Klapwijk model results commonly used to interpret PCAR experiments. We find that PCAR provides a good qualitative measure of Fermi energy spin-polarization, even when the quasiparticle bands are strongly spin-orbit coupled.

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