PHYSICS DEPARTMENT
COLLOQUIUM

"SUPERFLUID ^{3}HE: THIRTY YEARS OF STUDY"

BY

Professor Douglas Osheroff

Nobel Laureate
Stanford University

Abstract

Despite nearly a decade of searching, the three superfluid phases of 3He were discovered 31 years ago quite by accident. These phases were the first and in many ways remain the most unusual of the unconventional BCS states. The 3He Cooper pairs possess both nuclear spin and orbital angular momentum, and the absence of a background lattice allows the condensate wave functions to fully exhibit their many degrees of freedom. The speaker will describe some of his favorite characteristics of these superfluids, and show how they are being used today to better understand how non-s-wave BCS states respond to impurity scattering.

THURSDAY, JANUARY 16, 2003
4:00 PM IN 102 JFB
REFRESHMENTS AT 3:30 PM IN 219 JFB