MAR10-2009-000424

Abstract for an Invited Paper
for the MAR10 Meeting of
the American Physical Society

Early Thoughts on the Superfluidity of He^3

ANDREW SESSLER, Lawrence Berkeley National Laboratory

The history of the people and circumstances surrounding three papers will be presented. The first is the L.N. Cooper, R.L. Mills and A.M. Sessler, "Possible Superfluidity of a System of Strongly Interacting Fermions", Phys. Rev. **114**, 1377 (1959), in which the possibility of He^3 being a superfluid was suggested (although, it seemed not to be the case as only S-states were considered). The second is V.J. Emery and A.M. Sessler, "Possible Phase Transition in Liquid He^3", Phys. Rev. 119, 43 (1960) in which a definite prediction of superfluidity was proposed (in contrast with the conclusion of the earlier paper since here D-states were considered). And the third is A.E. Glassgold and A.M. Sessler, "Flow Properties of Superfluid System of Fermions", Il Nuovo Cimento Serie X, Vol 19, 723 (1960), in which the flow properties of superfluid He^3 were examined. Although the emphasis will be on the physicists, their background, educational experiences, and surroundings, some attention will be given to the physics in each of these papers for it was – after all – the physics that stimulated, along with the work of others, further theoretical work and, most importantly, the exceptional, and ultimately successful, experimental efforts of the following decade.