Quark Propagator in a Theory of Massless Fermions with Superfluidity SAJIB BARMAN, VIVIAN INCERA, The University of Texas at El Paso — A QCD inspired effective theory of fermions is considered to study superfluidity. We calculate the quark propagator in a theory with fermion-fermion condensate at finite density. In this theory color degrees of freedom are absent and the quark-quark interaction is modeled through a Yukawa interaction term. The final goal of the work is to find the polarization operator for the scalar field. Finding the quark propagator is needed to then calculate the polarization operator, so the results to be presented are still partial.

Sajib Barman
University of Texas at El Paso

Date submitted: 04 Mar 2013   Electronic form version 1.4