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Adiabatic Dynamics of the Superconducting Order Parameter MINXI JIANG, QIAN NIU, Department of Physics, The University of Texas, Austin, Texas — From the time-dependent variational principle and taking into Berry phase effects, we formulate the dynamics of superconducting order parameter in the region where it evolves much slower compared to the timescale of quasiparticles. Collective mode in this region is calculated and compared with previous result obtained from the random-phase approximation which is valid in the opposite limit. We discuss applications to BCS/BEC states of the quantum Fermi gases.

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