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Evolution from BCS to BEC superfluidity in p-wave Fermi gases
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We consider the evolution of superfluid properties of a three dimensional p-wave Fermi gas from weak (BCS) to strong (BEC) coupling as a function of scattering volume. We analyse the order parameter, quasi-particle excitation spectrum, chemical potential, average Cooper pair size and the momentum distribution in the ground state ($T = 0$). We also discuss the critical temperature T_c, chemical potential and number of unbound, scattering and bound fermions in the normal state ($T = T_c$). Lastly, we derive the time-dependent Ginzburg-Landau equation for $T \approx T_c$ and extract the Ginzburg-Landau coherence length.

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