

Abstract Submitted
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Gaussian fluctuation corrections to the BCS mean field gap amplitude at zero temperature¹ SIMON KOS, University of Cambridge, ANDREW MILLIS, Columbia University, ANATOLY LARKIN, University of Minnesota — The leading (Gaussian) fluctuation correction to the weak-coupling zero temperature BCS superconducting gap equation is computed. We find that the dominant contribution comes from the high energies and momenta (compared to the gap) and gives a correction smaller by the weak-coupling factor gN_0 than the mean-field terms. This correction is small due to cancellation of singular contributions from the amplitude and phase mode at high energies and momenta.

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