Kumar *et al.* Reply: The point raised above, namely that scattering by zero-point motion can only modify matrix elements by a form factor, and so can cause no dephasing of the Cooperon, is conceptually important. In fact, in the absence of any time-reversal symmetry-breaking term in the Hamiltonian (or spin-spin scattering) the complementary partial amplitudes corresponding to the whole system must be in phase. However, we note that the *calculated* τ_Φ [from our Eq. (4)] lies in the range 10^{-9} to 10^{-10} s, at least for simple metals, which is much greater than the period of atomic oscillation, 10^{-13} s. For our mechanism to operate, we therefore require that the oscillator should become incoherent on the time scale of 10^3 oscillations. At precisely absolute zero this cannot happen, but then the concept of transport—a nonequilibrium process—has little meaning at absolute zero. However, the local oscillator is coupled to the continuum of phonon modes, and this can produce the necessary dephasing. We also note from the general theory of quantum dissipation that the coupling is "Ohmic," in that the spectral density function of those modes is linear in frequency, the coefficient being the friction coefficient, as required by the fluctuation-dissipation theorem. It is this that ultimately limits the coherence of the atomic oscillator on the long time scale τ_Φ. In the light of the above, it would appear that the mechanism we propose will no longer be strictly temperature independent, nor can we see easily what the temperature dependence will be; however, it remains as an additional dephasing mechanism which does not involve inelastic electron scattering. We believe, therefore, that there is considerable importance in looking in detail at the experimental behavior of dephasing at low temperatures.

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