Greene, Krusin-Elbaum, and Malozemoff Reply: Although it is billed as a "criticism," we consider the Comment[1] of Hebard, Fiory, and Harshman (HFH) on our earlier Letter[2] to be actually a reaffirmation of the main points of our paper. These points were, and still are, that (1) the temperature dependence of the magnetic penetration depth λ for currents in the *a-b* plane of Y-Ba-Cu-O is consistent with a BCS *s*-wave pairing form (weak *or* strong coupling), and (2) $\lambda(0)$, the low-temperature limit, cannot be determined unambiguously by any fitting procedure without prior knowledge of the correct theory for the temperature dependence of the penetration depth, $\lambda(T)$.

Using weak- and strong-coupling forms for $\lambda(T)$, we fitted our data with two parameters $\lambda(0)$ and the baseline or zero-temperature susceptibility, χ_0. HFH have done a three-parameter fit, adding T_c as a variable. We agree this is helpful, but it does not change our results substantially. The weak-coupling $\lambda(0)$ shifts from our 900 Å to their 880 Å. The strong-coupling (two-fluid approximation) result shifts from our 1600 Å (using data over the entire temperature range, as HFH) to their 1700 Å. All of these estimates for $\lambda(0)$ fall within the error bars given in our paper. They confirmed, as we showed, that without an independent measurement of $\lambda(0)$ one cannot distinguish between strong and weak coupling.

In their Comment, HFH also emphasized that our value of χ_0 was about 14% less than $-1/4\pi$, which we initially thought might come from a nonsuperconducting surface layer in the sample. Subsequently we found that our initial calibration of the system was in error; after correction the low-temperature susceptibility is now within experimental error (a few percent) of $-1/4\pi$. But this makes no material difference in our results: We extracted $\Delta\lambda$ (the change in λ with temperature) from the simple expression $\Delta\lambda = d\Delta\chi/2\chi_0$ appropriate for our thin-plate geometry (with d the plate thickness). Since we took χ_0 to be the measured low-temperature limit of the susceptibility rather than $-1/4\pi$, the new calibration appears as a multiplicative factor in the numerator and denominator and cancels out. The few percent uncertainty in χ_{j0} translates into a similar uncertainty in the derived $\lambda(0)$ and, as HFH have confirmed, does not significantly alter the temperature-dependent fits.

The impact of our work comes from the directness of the data and simplicity of the analysis. The thin-film data analysis of Fiory *et al.*[3] is considerably more complex than ours and in addition has similar uncertainties in $\lambda(0)$. The muon data (such as, for example, Harschman *et al.*[4]) are complicated by flux pinning and creep causing deviations from the perfect vortex lattices postulated in the data analysis; because of these effects, the muon values are likely to give underestimates of $\lambda(0)$ and to be less reliable near T_c. Since the muon data are taken in tesla-level fields, there is also the possibility of some depairing effect increasing $\lambda(0)$ over that in our very-low-field experiment. If this is the case, the muon value of 1400 Å cannot be used to help distinguish between weak and strong coupling. These uncertainties are clearly shown by the fact that the same value for $\lambda(0)$ of 1400 Å gives Fiory *et al.*[3] a BCS weak-coupling dependence for $\lambda(T)$ whereas Harshman *et al.*[4] get a strong-coupling temperature dependence. Other experiments such as neutron scattering[5] or our recent results[6] on lower critical fields [where the range of linearity in $H_{c1}(T)$ at high temperatures points to a weak-coupling behavior] are still not fully consistent with the λ values deduced above.

Nevertheless, all the results—our single-crystal results as well as the results of Fiory *et al.*[3] and Harshman *et al.*[4]—show a T dependence of λ *consistent* with *s*-wave pairing. These results rule out some of the large deviations from *s*-wave pairing reported in much of the prior work on polycrystalline samples. However, none of the present experiments has enough accuracy to completely eliminate the possibility of BCS *p*- or *d*-wave pairing which in some cases can give a $\lambda(T)$ hardly distinguishable from *s*-wave pairing at low temperature (see, for example, Fig. 6 of Gross *et al.*[7]).

In summary, we believe any analysis of our data leads to the conclusions [(1) and (2) above] of our original Letter.

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