**Alexandrov, Liang, and Zavaritsky Reply:** Contrary to the Comment [1] we believe that (a) $H_{c2}(T)$ determined by us [2] corresponds to the appearance of an *extended stationary* order parameter being therefore the upper critical field by definition, and our theory is *exact* in the thermodynamic limit ($N, V \rightarrow \infty, N/V =$ const) for the short coherence-length superconductors, (b) the canonical fluctuation approach based on the Ginzburg-Landau free energy functional as suggested in the Comment cannot be applied to high-$T_c$ cuprates, (c) the observation of some diamagnetism above the resistive $H_{c2}(T)$ as well as the in-plane resistivity data are consistent with our result, and (d) a genuine zero-field-normal-state resistivity $R_N(T)$ was measured in our Letter. Let us spell out these arguments in simple terms.

Our definition of the normal state $R_N(T)$ is based on the observation of a zero (negligible in practice) magnetic-field effect on the $c$-axis resistivity well above $T_c(H)$. Because there is no magnetic-field dependence of the extrapolated $R_N(T)$ [Fig. 1(a) [2]] it is reasonable to regard $R_N(T)$ as the appropriate description of the normal state in the absence of superconductivity, as also suggested by other authors (in Ref. [3] this conclusion is verified up to 60 T). Therefore the resistivity peak in the magnetic field should be explained by the semiconductinglike temperature dependence of the normal state resistivity [4] rather than by fluctuations as claimed in the Comment. When the coherence volume becomes comparable with the volume occupied by one carrier the ground state is a charged $2e$ Bose liquid [5] rather than a BCS-Fermi liquid. In that case the linearized stationary Schrödinger equation for the condensate wave function [Eq. (2) of our Letter] is derived *microscopically* [5] taking into account *all* quantum and thermal fluctuations. In contrast with the mean-field Ginzburg-Landau (GL) theory this equation is exact as long as the total number of particles, $N$, is macroscopically large. It differs from GL one in the microscopic origin, so instead of the mean-field GL coefficient $\alpha \sim T - T_c$ there is the chemical potential $\mu$, with a *nonlinear* temperature dependence determined by the sum rule, Eq. (3) [2]. The theoretical $H_{c2}(T)$ corresponds to the appearance of a *real* extended superfluid and, as a consequence, to a resistivity drop. Therefore, our theoretical and experimental definitions of $H_{c2}(T)$ are identical. The parameter-free fit (Fig. 3 [2]) confirms this conclusion.

On the other hand, applying the canonical GL fluctuation theory [1], one arrives at a quite meaningless value of $H_{c2}(0)$ (250 T) and $-dHc2/dT = 2.7$ T/K. The number of Cooper pairs $N_p$ sharing the area occupied by one pair is $N_p = hcx/32ea^2H_{c2}(0)$, where $x$ is the number of holes per $CuO_2$ cell (0.15 at optimum doping) and $a$ is the in-plane lattice constant. Then by the use of the GL value of $H_{c2}(0)$ [1] we obtain $N_p = 0.5$, which is not a reasonable result within the canonical fluctuation theory based on the GL free energy functional. The latter can be derived only for the Fermi liquid characterized by two different energy (or length) scales (i.e., by slow and fast variables [6]). The above estimate shows that the zero temperature coherence length in high-$T_c$ cuprates is of the same order as the wavelength of holes which makes both scales to be indistinguishable and prohibits the application of the fluctuation theory no matter how many Landau levels contribute. This conclusion is well supported by the experimental results on the resistive upper critical field in low-$T_c$ cuprates measured down to the *millikelvin* scale [7] where one should not expect any role of thermal fluctuations. Nevertheless, the divergent $H_{c2}(T)$ is observed which *quantitatively* agrees with the charged Bose-liquid theory [5].

In addition to our results [2] there is now a growing body of evidence for the non-Fermi-liquid normal and non-BCS superconducting state of high-$T_c$ cuprates. In particular, the normal state gap is observed with magnetic, kinetic, thermodynamic, and now with the ARPES measurements. It clearly manifests pairing of carriers into bipolaronic states above $T_c$ as discussed by us [5]. These singlet bosons can provide a diamagnetic response well above the resistive $H_{c2}(T)$ which could be due to a sample inhomogeneity as well. Our data show the same upward $H_{c2}(T)$ determined with the in-plane resistivity as with the $c$-axis resistivity even if one takes into account a large broadening of the in-plane transition.

Therefore there is strong evidence, both theoretical and experimental [5], that cuprates belong to the same "universality" class of superfluids as $He^4$, to which the GL (or BCS) theory cannot be applied.

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