ERRATA

Erratum: Superheating fields of superconductors: Asymptotic analysis and numerical results [Phys. Rev. B 53, 5650 (1996)]

Andrew J. Dolgert, S. John Di Bartolo, and Alan T. Dorsey

[S0163-1829(97)09330-2]

Doctor B. Helffer has pointed out that the outer expansion discussed in Sec. III of our paper is incorrect; while Eqs. (3.9) and (3.13) are correct, our assumed form for the higher order terms, $f_n = C_n f_0^{(n)}$, is incorrect. The correct form can be obtained by noting that the vector potential $q(x)$ is *zero* to all orders in κ in the outer region (up to exponentially small corrections). Therefore, the solution for the order parameter in the outer region is

$$f(x') = \tanh\left(\frac{x' + \tilde{x}}{\sqrt{2}}\right), \tag{1}$$

where $\tilde{x}$ can be expanded in powers of κ as

$$\tilde{x}(\kappa) = x_0 + x_1\kappa + x_2\kappa^2 + x_3\kappa^3 + x_4\kappa^4 + x_5\kappa^5 + \cdots. \tag{2}$$

By expanding $f(x')$ to $O(\kappa)$, we recover Eqs. (3.9) and (3.13), but the higher order terms are not given by $C_n f_0^{(n)}$.

The following subsection on the inner solution is still correct, as is the subsection on matching, as we only presented explicit details on the matching procedure to $O(\kappa)$. For the same reason, the two-term uniform solution in the subsection on the uniform solution need not be changed either, and Eq. (3.43) is correct. The effect of the error is only manifest at $O(\kappa^2)$, and we have modified Table I accordingly. Oddly enough, the only change to the superheating field $H_{\rm sh}$ occurs in $H_4(0)$.

Finally, the new Padé approximant is

$$H_{\rm sh}^{\rm Padé} = 2^{-3/4}\kappa^{-1/2}\frac{1 + 4.6825120\kappa + 3.3478315\kappa^2}{1 + 4.0195994\kappa + 1.0005712\kappa^2}. \tag{3}$$

This result agrees closely with the numerical results, and is a modest improvement over Eq. (3.42) in our paper.

We thank Dr. Helffer for correspondence.

TABLE I. New summary of the results of the small-κ expansion for the superheating field. Here A_n is the value of the order parameter $F(X)$ at the surface at nth order, B_n is the value of the vector potential $Q(X)$ at nth order, x_n is the coefficient of the nth order term of $\tilde{x}$ in our outer expansion of the order parameter, and $H_n(0)$ is the nth order term in the expansion of the superheating field. Values which are undetermined by a six term inner expansion are indicated by a question mark.

n	A_n	B_n	x_n	$H_n(0)$
0	$2^{-1/2}$	$-2^{-1/4}$	$2^{1/2}\tanh^{-1}(2^{-1/2})$	$2^{-3/4}$
1	$-7/32$	$-(9/16)2^{1/4}$	$-(15/16)2^{1/2}$	$(15/64)2^{3/4}$
2	$(395/2048)2^{1/2}$	$(147/512)2^{3/4}$	429/512	$-(325/2048)2^{1/4}$
3	?	?	?	$(14191/65536)2^{3/4}$
4	?	?	?	$-(67453267/62914560)2^{1/4}$

Erratum: *Ab initio* studies of high-pressure structural transformations in silica [Phys. Rev. B 55, 3465 (1997)]

B. B. Karki, M. C. Warren, L. Stixrude, G. J. Ackland, and J. Crain

[S0163-1829(97)08730-4]

We misidentified the space group symmetry of the post-$CaCl_2$ phase as Pnc_2, a subgroup of the true space group. The correct space group of the high-pressure phase is $Pbcn$, and is identical to that of the α-PbO_2 (columbite) structure. The correct lattice parameters and atomic positional parameters within $Pbcn$ (primed) are related to those reported in our paper (unprimed) by the following transformations:

$$a' = b, \quad b' = c, \quad c' = a$$

and

$$x' = -y, \quad y' = z + 0.0136, \quad z' = x + 0.25.$$

None of the conclusions of the paper are modified by this correction. This error was pointed out to us by D. Teter, M. Kanzaki, Y. Matsui, and M. Matsui.

0163-1829/97/56(5)/2884(1)/$10.00