

Erratum: Unconventional Pairing Originating from the Disconnected Fermi Surfaces of Superconducting $\text{LaFeAsO}_{1-x}\text{F}_x$ [Phys. Rev. Lett. 101, 087004 (2008)]

Kazuhiko Kuroki, Seiichiro Onari, Ryotaro Arita, Hidetomo Usui, Yukio Tanaka, Hiroshi Kontani, and Hideo Aoki
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The appearance of the gap nodes intersecting the β Fermi surface in Fig. 2(d) of our Letter was due to an error in the final stage of the calculation, i.e., the unitary transformation from the orbital representation (in which we have solved the Eliashberg equation) to the band representation. The correct Fig. 2 is shown below, where the main changes appear in (d), while (a),(b) are the same, and (c),(e) remain essentially unchanged as far as the features on the Fermi surface are concerned. The diagonal elements of the gap in the band representation is fully open on the Fermi surface [schematically the upper panel of Fig. 2(b)], and the off-diagonal elements are less important in this sense. However, the main conclusions of the original Letter related to this figure do remain unaltered in the following sense. (i) The magnitude of the gap along the β Fermi surface still varies significantly. (ii) Regarding the way in which the gap nodes intersecting the β Fermi surface appear depending on the parameter values, we do find that the nodes in the s -wave gap nearly touch or intersect the Fermi surface for band fillings beyond 6.3, or also when we adopt a band structure obtained for the *theoretically optimized* lattice parameters. This is consistent with the result recently obtained by Graser *et al.*, who have adopted a five-band model obtained by fitting a band structure of the theoretically optimized lattice structure [1]. In these cases, d wave closely competes with or dominates over s wave. This can be naturally understood as a consequence of the coexistence of $(\pi, \pi/2)$ and $(\pi, 0)$ spin fluctuations as asserted in the original Letter.

[1] S. Graser, T. A. Maier, P. J. Hirschfeld, and D. J. Scalapino, Phys. Rev. B 77, 180514 (2008).

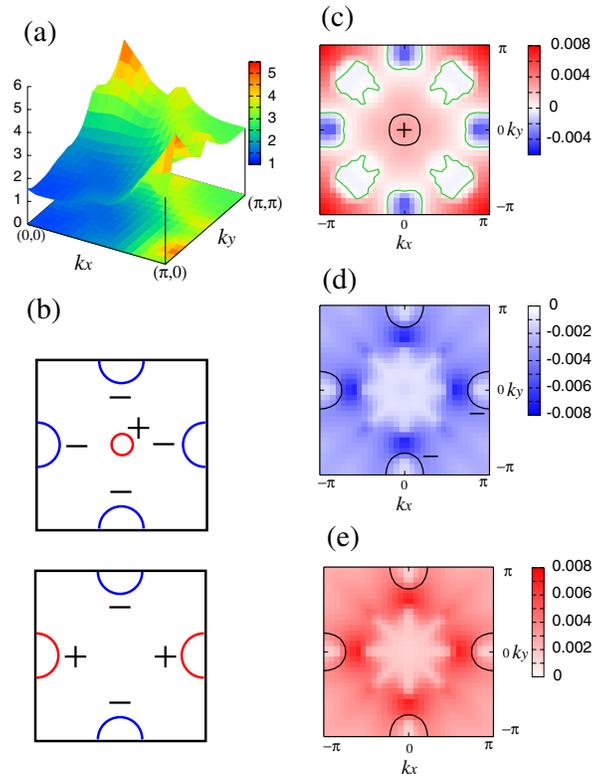


FIG. 2 (color online). RPA result for the spin susceptibility χ_s (a), the gap functions ϕ_3 (c) and ϕ_4 (d), and $\sqrt{(\hat{\phi}\hat{\phi}^\dagger)_{44}}$ (e) for $U = 1.2$, $U' = 0.9$, $J = J' = 0.15$, $n = 6.1$ and $T = 0.02$ (in eV). In (c) and (d), the black solid lines represent the Fermi surfaces. In (b), the fully gapped extended s (upper panel) and $d_{x^2-y^2}$ gaps are schematically shown.