ERRATA

Erratum: Temperature dependence of superconductor-correlated metal–superconductor Josephson junctions [Appl. Phys. Lett. 82, 970 (2003)]

J. K. Freericks and B. K. Nikolić
Department of Physics, Georgetown University, Washington, D.C. 20057-0995

P. Miller
Department of Physics, Brandeis University, Waltham, Massachusetts 02454

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An error was discovered in the numerical code that calculated the normal state resistance, leading to a density of states that was not converged at small energy and to a subsequent error in the low-temperature resistance calculations. We have corrected the error, which greatly reduces R_n (at low temperature) and hence I_cR_n for the correlated metal/insulator barriers with moderate thickness. The revised data is shown in the corrected Fig. 1(b). At low temperature ($T \approx T_c/11$) and in the metallic phase, we see I_cR_n lies below the Ambegaokar–Baratoff limit and decreases as the correlations increase, until the system hits a metal-insulator transition (at $U_{FK} \approx 5.5t$), where the slope of the characteristic voltage changes sign to positive. I_cR_n continues to increase as correlations increase with a maximal value close to the Ambegaokar–Baratoff prediction and above the single-plane tunnel junction result. As we increase the temperature to $T \approx T_c/2$, we see the characteristic voltage is decreased but still remains optimized in the insulating phase.

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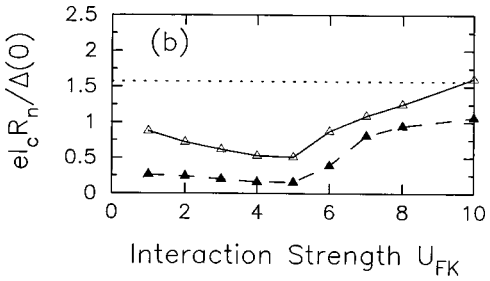

FIG. 1. Corrected figure-of-merit I_cR_n [normalized by $\Delta(0)/e$] for (b) a moderate ($N=5$) barrier at $T \approx T_c/11$ and $T \approx T_c/2$ as a function of the Coulomb interaction U_{FK}. The open symbols (and solid line) depict the low-temperature ($T \approx T_c/11$) results and the solid symbols (and dashed line) depict the higher-temperature ($T \approx T_c/2$) results. The dotted line is the $T=0$ Ambegaokar–Baratoff prediction. In the five-plane case, the figure-of-merit is enhanced on the insulating side of the metal-insulator transition.

