



Correction to: On the Role of Fermi Energy in Determining Properties of Superconductors: a Detailed Comparative Study of Two Elemental Superconductors (Sn and Pb), a Non-cuprate (MgB₂) and Three Cuprates (YBCO, Bi-2212 and Tl-2212)

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With definitions of symbols as in [1], this corrigendum is concerned with Equation (41) for j_0 :

$$j_0(E_F) = A_5 \frac{\theta}{y} (\gamma/v_g)^{2/3} E_F^{2/3}.$$

The value of A_5 following this equation was given as $3.703 \times 10^{-4} \text{ C eV}^{-4/3} \text{ K}^{1/3} \text{ s}^{-1}$. This was a misprint that was overlooked: the numerical value of A_5 should have been 3.073×10^{-4} with which all calculations were performed. More importantly, even the latter value of A_5 is incorrect: the correct value is twice this value. This is readily seen via the equation for j_0 preceding (41) and the equations for

$n_s(E_F)$ and $v_0(E_F)$, (35) and (39), respectively, whence

$$j_0(E_F) = (A_2 A_4 e) \frac{\theta}{y} (\gamma/v_g)^{2/3} E_F^{2/3}, \text{ and}$$

$$A_5 = A_2 A_4 e = 6.146 \times 10^{-4} \text{ C eV}^{-4/3} \text{ K}^{1/3} \text{ s}^{-1}.$$

Consistent with the values of $|W|$ (or $|W|_s$), T_c and j_0 of the SCs dealt with in [1], remarkably, implementation of the above correction leads for *each* of these SCs to values of E_F and n_s that are about 0.35 times their values given in [1], and to revised values of s and v_0 that are about 1.4 times their earlier values.

References

1. Malik, G.P.: J. Supercond. Nov. Mag. **29**, 2755 (2016)

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