

**Erratum: Next-to-leading order calculation of four-jet observables
in electron-positron annihilation
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Equations (A41), (A45), (A53), and (B6) in the paper appeared with typographical errors. The errors and the corrected formulas are listed below.

Paranthesis was missing in Eq. (A41):

$$A(1_q^+, 2_q^-, 3_Q^+, 4_Q^-) = - \left(\frac{[13]\langle 52 \rangle \langle 4 | (1+3) | 6 \rangle}{t_{134} s_{34}} + \frac{\langle 42 \rangle [61] \langle 5 | (2+4) | 3 \rangle}{t_{234} s_{34}} \right).$$

A plus sign in front of the first term in Eq. (A45) should be moved before the sixth term:

$$\begin{aligned} A(1_q^+, 2_g^+, 3_g^-, 4_g^+, 5_q^-) &= \frac{\langle 31 \rangle [12] \langle 3 | (1+2) | 4 \rangle \langle 3 | (5+6) | 7 \rangle \langle 65 \rangle}{\langle 12 \rangle \langle 34 \rangle s_{23} t_{123} t_{567}} + \frac{\langle 31 \rangle [12] \langle 3 | (1+2) | 7 \rangle \langle 65 \rangle \langle 35 \rangle}{\langle 12 \rangle \langle 34 \rangle \langle 45 \rangle s_{23} t_{123}} \\ &- \frac{\langle 3 | (1+2) | 7 \rangle \langle 6 | (1+7) | 2 \rangle \langle 35 \rangle^2}{\langle 12 \rangle \langle 23 \rangle \langle 34 \rangle \langle 45 \rangle [23] t_{345}} + \frac{\langle 3 | (1+2) | 7 \rangle \langle 6 | (5+3) | 4 \rangle \langle 35 \rangle [42]}{[23] \langle 12 \rangle \langle 23 \rangle s_{34} t_{345}} \\ &- \frac{[42]^2 [17] \langle 6 | (1+7) (2+4) | 3 \rangle \langle 35 \rangle}{s_{23} s_{34} t_{234} t_{167}} + \frac{[42] \langle 3 | (5+6) | 7 \rangle \langle 65 \rangle}{s_{23} s_{34} t_{567}} \left(\frac{[42] \langle 3 | (2+4) | 1 \rangle}{t_{234}} - \frac{\langle 3 | (1+2) | 4 \rangle}{\langle 12 \rangle} \right) \\ &+ \frac{[17] \langle 6 | (1+7) | 2 \rangle \langle 35 \rangle^2}{s_{23} t_{345} t_{167}} \left(\frac{\langle 3 | (5+4) | 2 \rangle}{\langle 34 \rangle \langle 45 \rangle} + \frac{[42] [54]}{s_{34}} \right). \end{aligned}$$

A closing parenthesis is missing in the last term of Eq. (A46):

$$\begin{aligned} A(1_q^+, 2_g^-, 3_g^+, 4_g^+, 5_q^-) &= \frac{[43]^2 \langle 2 | (3+4) | 1 \rangle \langle 2 | (5+6) | 7 \rangle \langle 65 \rangle}{s_{23} s_{34} t_{234} t_{567}} + \frac{[13] \langle 2 | (3+4) | 1 \rangle \langle 2 | (5+6) | 7 \rangle \langle 65 \rangle}{[12] \langle 34 \rangle \langle 42 \rangle s_{23} t_{567}} \\ &- \frac{[13]^2 \langle 2 | (1+3) | 4 \rangle \langle 2 | (5+6) | 7 \rangle \langle 65 \rangle}{[12] \langle 24 \rangle s_{23} t_{123} t_{567}} - \frac{[13]^2 \langle 2 | (1+3) | 7 \rangle \langle 65 \rangle \langle 25 \rangle}{[12] \langle 24 \rangle \langle 45 \rangle s_{23} t_{123}} \\ &- \frac{[17] \langle 25 \rangle [43]^2 \langle 6 | (1+7) (3+4) | 2 \rangle}{s_{23} s_{34} t_{234} t_{167}} + \frac{[13] [17] \langle 25 \rangle}{[12] s_{23} \langle 24 \rangle t_{345}} \left(\langle 6 | (5+4) | 3 \rangle \left(\frac{\langle 25 \rangle}{\langle 45 \rangle} - \frac{\langle 32 \rangle}{\langle 34 \rangle} \right) \right. \\ &\left. - \langle 6 | (5+3) | 4 \rangle \frac{\langle 42 \rangle}{\langle 34 \rangle} \right) + \frac{[17] \langle 6 | (1+7) | 3 \rangle \langle 25 \rangle}{\langle 24 \rangle s_{23} t_{345} t_{167}} \left(\langle 2 | (5+4) | 3 \rangle \left(\frac{\langle 25 \rangle}{\langle 45 \rangle} - \frac{\langle 32 \rangle}{\langle 34 \rangle} \right) - \langle 2 | (5+3) | 4 \rangle \frac{\langle 42 \rangle}{\langle 34 \rangle} \right). \end{aligned}$$

The fourth term in Eq. (A53) should be corrected as follows:

$$\begin{aligned} A_2(1_q^+, 2_q^-, 3_Q^+, 4_Q^-, 5_g^+) &= - \frac{[53] \langle 4 | (3+5) | 1 \rangle \langle 4 | (2+6) | 7 \rangle \langle 62 \rangle}{\langle 45 \rangle s_{34} t_{345} t_{267}} - \frac{[17] \langle 6 | (1+7) | 3 \rangle [25] \langle 42 \rangle^2}{\langle 45 \rangle s_{25} s_{34} t_{167}} \\ &- \frac{[13] \langle 4 | (1+3) | 5 \rangle \langle 4 | (2+6) | 7 \rangle \langle 62 \rangle}{\langle 45 \rangle s_{34} t_{134} t_{267}} - \frac{[13] \langle 4 | (1+3) | 7 \rangle \langle 42 \rangle \langle 62 \rangle}{\langle 45 \rangle \langle 52 \rangle s_{34} t_{134}} \\ &- \frac{[17] \langle 6 | (1+7) (3+5) | 4 \rangle [35] \langle 42 \rangle}{\langle 45 \rangle s_{34} t_{345} t_{167}}. \end{aligned}$$

A modulus sign was missing in Eq. (B6):

$$|\mathcal{M}_4(1_q, 2_g, 3_g, 4_{\bar{q}})|^2 = N_c C_F^2 \{ |m(1_{f_1}, 2, 3, 4_{f_4})|^2 + |m(1_{f_1}, 3, 2, 4_{f_4})|^2 + 2 \operatorname{Re}(m(1_{f_1}, 2, 3, 4_{f_4}) m(1_{f_1}, 3, 2, 4_{f_4})^*) - x \operatorname{Re}(m(1_{f_1}, 2, 3, 4_{f_4}) m(1_{f_1}, 3, 2, 4_{f_4})^*) \} .$$

These errors do not affect any of the numerical results published in the paper.

In addition to these corrections, we would like to call the reader's attention to the different normalization of the color matrices in the main text and in the appendix, as remarked between Eqs. (A4) and (A5), which implies that the $SU(N_c)$ value of C_F is $N_C - 1/N_C$ in Appendix B. Furthermore, it should be clear from Eq. (A6) that we treat the quarks as indistinguishable, therefore, a proper symmetry factor, which depends on the actual channel in which the squared matrix elements are used, has to be supplied in the cross section.

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