Erratum

Three-jet distributions in $e^+ e^-$ annihilation: electromagnetic and weak production

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The coefficients S_U^A and S_L^A in Table 2 of Appendix B for the unpolarized transverse and the longitudinal cross sections of scalar gluon radiation $e^+ e^- \rightarrow q \bar{q} G_s$ must correctly read

	$G \equiv T$	$q \equiv T$
S_U^V	x_G^2	$x_G^2 - \frac{1}{2} x_\perp^2$
S_L^V	0	$\frac{1}{2} x_\perp^2$
S_I^V	0	$-\frac{1}{2\sqrt{2}} x_\perp x_G \cos \varphi_{qG}$
S_T^V	0	$\frac{1}{4} x_\perp^2$
S_U^A	$x_G^2 - 4(1-x_q)(1-x_{\bar{q}})$	$x_G^2 - \frac{1}{2} x_\perp^2$ $- 4(1-x_q)(1-x_{\bar{q}})^2/x_q$
S_L^A	$\frac{1}{2} x_G^2 x_\perp^2$	$\frac{1}{2} (1-x_q)^2 x_\perp^2$
S_I^A	$-\frac{1}{2\sqrt{2}} x_G x_\perp (x_q - x_{\bar{q}})$	$-\frac{1}{2\sqrt{2}} x_\perp [(1-2x_q) x_G \cos \varphi_{qG}$ $- x_q(x_q - x_{\bar{q}})]$
S_T^A	0	$\frac{1}{4} x_\perp^2 (1-2x_q)$
K_F	$-\frac{1}{2} x_G(x_q - x_{\bar{q}})$	$\frac{1}{2} [x_G^2 - 2(1-x_{\bar{q}})(1-x_{\bar{q}})/x_q]$
K_X	$\frac{1}{4\sqrt{2}} x_\perp x_G^2$	$-\frac{1}{4\sqrt{2}} x_\perp [2(1-x_q) - x_q x_G]$

As a result, the Dalitz plot densities for scalar gluon radiation in Z decays are given by

$$Z \text{ vector coupling} \sim \frac{x_G^2}{(1-x_q)(1-x_{\bar{q}})}$$

$$Z \text{ axial vector coupling} \sim \frac{x_G^2}{(1-x_q)(1-x_{\bar{q}})} - 2(1+x_G)$$

[Helicity amplitudes can be found in J. Körner et al. DESY 81-043 (unpublished).] We thank H. Jeremie, S. Müller and T. Sjöstrand for making us aware of this problem.