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Erratum

Erratum to: Quantum Yang-Mills field theory

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After publication, the author has realized that a couple of indexes were not properly set in the equations for the 1-point function (eqs. (60) and (61)) whose correct version is as follows:

$$\begin{aligned}
&\partial^2 G_{1\nu}^{(j)a}(x) + gf^{abc}(\partial^\mu G_{2\mu\nu}^{(j)bc}(x,x) + \partial^\mu G_{1\mu}^{(j)b}(x)G_{1\nu}^{(j)c}(x) - \partial_\nu G_{2\mu}^{(j)\mu bc}(x,x) - \partial_\nu G_{1\mu}^{(j)b}(x)G_1^{(j)\mu c}(x)) \\
&+gf^{abc}\partial^\mu G_{2\mu\nu}^{(j)bc}(x,x) + gf^{abc}\partial^\mu(G_{1\mu}^{(j)b}(x)G_{1\nu}^{(j)c}(x)) \\
&+g^2 f^{abc}f^{cde}(G_{3\mu\nu}^{(j)\mu bde}(x,x,x) + G_{2\mu\nu}^{(j)bd}(x,x)G_1^{(j)\mu e}(x) \\
&+G_{2\nu\rho}^{(j)eb}(x,x)G_1^{(j)\rho d}(x) + G_{2\mu\nu}^{(j)de}(x,x)G_1^{(j)\mu b}(x) \\
&+G_1^{(j)\mu b}(x)G_{1\mu}^{(j)d}(x)G_{1\nu}^{(j)e}(x)) = gf^{abc}(\partial_\nu P_2^{(\varepsilon)bc}(x,x) + \partial_\nu(\bar{P}_1^{(\varepsilon)b}(x)P_1^{(\varepsilon)c}(x))) + j_\nu^a
\end{aligned} \tag{60}$$

and then, for $j = 0$,

$$\begin{aligned}
&\partial^2 G_{1\nu}^{a}(x) + gf^{abc}(\partial^\mu G_{2\mu\nu}^{bc}(0) + \partial^\mu G_{1\mu}^{b}(x)G_{1\nu}^{c}(x) - \partial_\nu G_{2\mu}^{\nu bc}(0) - \partial_\nu G_{1\mu}^{b}(x)G_1^{\mu c}(x)) \\
&+gf^{abc}\partial^\mu G_{2\mu\nu}^{bc}(0) + gf^{abc}\partial^\mu(G_{1\mu}^{b}(x)G_{1\nu}^{c}(x)) \\
&+g^2 f^{abc}f^{cde}(G_{3\mu\nu}^{\mu bde}(0,0) + G_{2\mu\nu}^{bd}(0)G_1^{\mu e}(x) \\
&+G_{2\nu\rho}^{eb}(0)G_1^{\rho d}(x) + G_{2\mu\nu}^{de}(0)G_1^{\mu b}(x) \\
&+G_1^{\mu b}(x)G_{1\mu}^{d}(x)G_{1\nu}^{e}(x)) = gf^{abc}(\partial_\nu P_2^{bc}(0) + \partial_\nu(\bar{P}_1^{b}(x)P_1^{c}(x))).
\end{aligned} \tag{61}$$

This indexes problem was also present in the equations for the 2-point function of the gluon (eqs. (62) and (63)), where a term was also omitted. These should read as follows:

$$\begin{aligned}
&\partial^2 G_{2\nu\kappa}^{(j)am}(x-y) + gf^{abc}(\partial^\mu G_{3\mu\nu\kappa}^{(j)bcm}(x,x,y) + \partial^\mu G_{2\mu\kappa}^{(j)bm}(x-y)G_{1\nu}^{(j)c}(x) + \partial^\mu G_{1\mu}^{(j)b}(x)G_{2\nu\kappa}^{(j)cm}(x-y) \\
&-\partial_\nu G_{3\mu\kappa}^{(j)\mu bcm}(x,x,y) - \partial_\nu G_{2\mu\kappa}^{(j)bm}(x-y)G_1^{(j)\mu c}(x) - \partial_\nu G_{1\mu}^{(j)b}(x)G_{2\kappa}^{(j)\mu cm}(x-y)) \\
&+gf^{abc}\partial^\mu G_{3\mu\nu\kappa}^{(j)bcm}(x,x,y) + gf^{abc}\partial^\mu(G_{2\mu\kappa}^{(j)bm}(x-y)G_{1\nu}^{(j)c}(x)) + gf^{abc}\partial^\mu(G_{1\mu}^{(j)b}(x)G_{2\nu\kappa}^{(j)cm}(x-y)) \\
&+g^2 f^{abc}f^{cde}(G_{4\mu\nu\kappa}^{(j)\mu bdem}(x,x,x,y) + G_{3\mu\nu\kappa}^{(j)bdm}(x,x,y)G_1^{(j)\mu e}(x) + G_{2\mu\nu}^{(j)bd}(x,x)G_{2\kappa}^{(j)\mu em}(x-y) \\
&+G_{3\nu\rho\kappa}^{(j)acm}(x,x,y)G_1^{(j)\rho b}(x) + G_{2\nu\rho}^{(j)eb}(x,x)G_{2\kappa}^{(j)\rho dm}(x-y) + G_{2\nu\rho}^{(j)de}(x,x)G_{2\kappa}^{(j)\rho bm}(x-y) + G_1^{(j)\mu b}(x)G_{3\mu\nu\kappa}^{(j)dem}(x,x,y) \\
&+G_{2\kappa}^{(j)\mu bm}(x-y)G_{1\mu}^{(j)d}(x)G_{1\nu}^{(j)e}(x) + G_1^{(j)\mu b}(x)G_{2\mu\kappa}^{(j)dm}(x-y)G_{1\nu}^{(j)e}(x) + G_1^{(j)\mu b}(x)G_{1\mu}^{(j)d}(x)G_{2\nu\kappa}^{(j)em}(x-y)) \\
&= gf^{abc}(\partial_\nu K_{3\kappa}^{(j\varepsilon)bcm}(x,x,y) + \partial_\nu(\bar{P}_1^{(\varepsilon)b}(x)K_{2\kappa}^{(j\varepsilon)cm}(x,y))) + \partial_\nu(\bar{K}_{2\kappa}^{(j\varepsilon)bm}(x,y)P_1^{(\varepsilon)c}(x))) + \delta_{am}g_{\nu\kappa}\delta^4(x-y)
\end{aligned} \tag{62}$$

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and, for $j = 0$,

$$\begin{aligned}
&\partial^2 G^{am}_{2\nu\kappa}(x-y) + gf^{abc}(\partial^\mu G^{bcm}_{3\mu\nu\kappa}(0,x-y) + \partial^\mu G^{bm}_{2\mu\kappa}(x-y)G^c_{1\nu}(x) + \partial^\mu G^b_{1\mu}(x)G^{cm}_{2\nu\kappa}(x-y)\\
&-\partial_\nu G^{\mu bcm}_{3\mu\kappa}(0,x-y) - \partial_\nu G^{bm}_{2\mu\kappa}(x-y)G^{\mu c}_1(x) - \partial_\nu G^b_{1\mu}(x)G^{\mu cm}_{2\kappa}(x-y))\\
&+gf^{abc}\partial^\mu G^{bcm}_{3\mu\nu\kappa}(0,x-y) + gf^{abc}\partial^\mu(G^{bm}_{2\mu\kappa}(x-y)G^c_{1\nu}(x)) + gf^{abc}\partial^\mu(G^b_{1\mu}(x)G^{cm}_{2\nu\kappa}(x-y))\\
&+g^2 f^{abc}f^{cde}(G^{\mu bdem}_{4\mu\nu\kappa}(0,0,x-y) + G^{bdm}_{3\mu\nu\kappa}(0,x-y)G^{\mu e}_1(x) + G^{bd}_{2\mu\nu}(0)G^{\mu em}_{2\kappa}(x-y)\\
&+G^{acm}_{3\nu\rho\kappa}(0,x-y)G^{\rho b}_1(x) + G^{eb}_{2\nu\rho}(0)G^{\rho dm}_{2\kappa}(x-y) + G^{de}_{2\nu\rho}(0)G^{\rho bm}_{2\kappa}(x-y) + G^{\mu b}_1(x)G^{dem}_{3\mu\nu\kappa}(0,x-y)\\
&+G^{\mu bm}_{2\kappa}(x-y)G^d_{1\mu}(x)G^e_{1\nu}(x) + G^{\mu b}_1(x)G^{dm}_{2\mu\kappa}(x-y)G^e_{1\nu}(x) + G^{\mu b}_1(x)G^d_{1\mu}(x)G^{em}_{2\nu\kappa}(x-y))\\
&= gf^{abc}(\partial_\nu K^{bcm}_{3\kappa}(0,x-y) + \partial_\nu(\bar{P}^b_1(x)K^{cm}_{2\kappa}(x-y))) + \partial_\nu(\bar{K}^{bm}_{2\kappa}(x-y)P^c_1(x))) + \delta_{am}g_{\nu\kappa}\delta^4(x-y).
\end{aligned} \tag{63}$$

These corrections are completely irrelevant for the conclusions of the paper, as the omitted term in the equation for the 2-point function is just another term for the mass correction that adds to the two others already present.