

Erratum: Renormalization-group calculations with k_{\parallel} -dependent couplings in a ladder [Phys. Rev. B 72, 045120 (2005)]

G. Abramovici, J. C. Nickel, and M. Héritier
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In Appendix B, part 1, the sign before the Peierls terms in the renormalization group equations is wrong, but was correct in the numerical simulation, so that none of the results are compromised. Here are the corrected equations:

$$\begin{aligned} \frac{d\tilde{g}_0}{d\ell}(c,l,p) = & \frac{\Lambda}{8\Lambda+4|c|} \left[\sum_{\pm} \tilde{g}_0 \left(c, \pm \left(\Lambda + \frac{|c|}{2} \right) + \frac{l+p}{2}, \mp \left(\Lambda + \frac{|c|}{2} \right) + \frac{l+p}{2} \right) \tilde{g}_0 \left(c, \mp \left(\Lambda + \frac{|c|}{2} \right) + \frac{l-p}{2}, \mp \left(\Lambda + \frac{|c|}{2} \right) - \frac{l-p}{2} \right) \right. \\ & \left. + \sum_{\pm} \tilde{g}_{i0} \left(c, \pm \left(\Lambda + \frac{|c|}{2} \right) + \frac{l+p}{2}, \mp \left(\Lambda + \frac{|c|}{2} \right) + \frac{l+p}{2} \right) \tilde{g}_{i\pi} \left(c, \mp \left(\Lambda + \frac{|c|}{2} \right) + \frac{l-p}{2}, \mp \left(\Lambda + \frac{|c|}{2} \right) - \frac{l-p}{2} \right) \right] \\ & - \frac{\Lambda}{8\Lambda+4|p|} \left[\sum_{\pm} \tilde{g}_0 \left(\mp \left(\Lambda + \frac{|p|}{2} \right) + \frac{c+l}{2}, \pm \left(\Lambda + \frac{|p|}{2} \right) + \frac{c+l}{2}, p \right) \right. \\ & \left. \times \tilde{g}_0 \left(\mp \left(\Lambda + \frac{|p|}{2} \right) + \frac{c-l}{2}, \mp \left(\Lambda + \frac{|p|}{2} \right) - \frac{c-l}{2}, p \right) \right] \\ & - \frac{\Lambda}{8\Lambda+4|p+2\Delta k_f|} \left[\sum_{\pm} \tilde{g}_{b0} \left(\mp \left(\Lambda + \frac{|p+2\Delta k_f|}{2} \right) + \frac{c+l}{2} - \Delta k_f, \pm \left(\Lambda + \frac{|p+2\Delta k_f|}{2} \right) + \frac{c+l}{2} - \Delta k_f, p \right) \right. \\ & \left. \times \tilde{g}_{b\pi} \left(\mp \left(\Lambda + \frac{|p+2\Delta k_f|}{2} \right) + \frac{c-l}{2} + \Delta k_f, \mp \left(\Lambda + \frac{|p+2\Delta k_f|}{2} \right) - \frac{c-l}{2} + \Delta k_f, p+2\Delta k_f \right) \right], \end{aligned}$$

$$\begin{aligned} \frac{d\tilde{g}_{f0}}{d\ell}(c,l,p) = & \frac{\Lambda}{8\Lambda+4|c|} \left[\sum_{\pm} \tilde{g}_{f0} \left(c, \pm \left(\Lambda + \frac{|c|}{2} \right) + \frac{l+p}{2}, \mp \left(\Lambda + \frac{|c|}{2} \right) + \frac{l+p}{2} \right) \right. \\ & \left. \times \tilde{g}_{f0} \left(c, \mp \left(\Lambda + \frac{|c|}{2} \right) + \frac{l-p}{2}, \mp \left(\Lambda + \frac{|c|}{2} \right) - \frac{l-p}{2} \right) \right] \\ & + \frac{\Lambda}{8\Lambda+4|c+2\Delta k_f|} \left[\sum_{\pm} \tilde{g}_{b0} \left(c, \pm \left(\Lambda + \frac{|c+2\Delta k_f|}{2} \right) + \frac{l+p}{2} - \Delta k_f, \mp \left(c\Lambda + \frac{|c+2\Delta k_f|}{2} \right) + \frac{l+p}{2} - \Delta k_f \right) \right. \\ & \left. \times \tilde{g}_{b\pi} \left(c+2\Delta k_f, \mp \left(\Lambda + \frac{|c+2\Delta k_f|}{2} \right) + \frac{l-p}{2} + \Delta k_f, \mp \left(\Lambda + \frac{|c+2\Delta k_f|}{2} \right) - \frac{l-p}{2} + \Delta k_f \right) \right] \\ & - \frac{\Lambda}{8\Lambda+4|p|} \left[\sum_{\pm} \tilde{g}_{f0} \left(\mp \left(\Lambda + \frac{|p|}{2} \right) + \frac{c+l}{2}, \pm \left(\Lambda + \frac{|p|}{2} \right) + \frac{c+l}{2}, p \right) \right. \\ & \left. \times \tilde{g}_{f0} \left(\mp \left(\Lambda + \frac{|p|}{2} \right) + \frac{c-l}{2}, \mp \left(\Lambda + \frac{|p|}{2} \right) - \frac{c-l}{2}, p \right) \right. \\ & \left. + \sum_{\pm} \tilde{g}_{i0} \left(\mp \left(\Lambda + \frac{|p|}{2} \right) + \frac{c+l}{2}, \pm \left(\Lambda + \frac{|p|}{2} \right) + \frac{c+l}{2}, p \right) \tilde{g}_{i\pi} \left(\mp \left(\Lambda + \frac{|p|}{2} \right) + \frac{c-l}{2}, \mp \left(\Lambda + \frac{|p|}{2} \right) - \frac{c-l}{2}, p \right) \right], \end{aligned}$$

$$\begin{aligned} \frac{d\tilde{g}_{i0}}{d\ell}(c,l,p) = & \frac{\Lambda}{8\Lambda+4|c|} \left[\sum_{\pm} \tilde{g}_0 \left(c, \pm \left(\Lambda + \frac{|c|}{2} \right) + \frac{l+p}{2}, \mp \left(\Lambda + \frac{|c|}{2} \right) + \frac{l+p}{2} \right) \tilde{g}_{i0} \left(c, \mp \left(\Lambda + \frac{|c|}{2} \right) + \frac{l-p}{2}, \mp \left(\Lambda + \frac{|c|}{2} \right) - \frac{l-p}{2} \right) \right. \\ & \left. + \sum_{\pm} \tilde{g}_{i0} \left(c, \pm \left(\Lambda + \frac{|c|}{2} \right) + \frac{l+p}{2}, \mp \left(\Lambda + \frac{|c|}{2} \right) + \frac{l+p}{2} \right) \tilde{g}_{i\pi} \left(c, \mp \left(\Lambda + \frac{|c|}{2} \right) + \frac{l-p}{2}, \mp \left(\Lambda + \frac{|c|}{2} \right) - \frac{l-p}{2} \right) \right] \\ & - \frac{\Lambda}{8\Lambda+4|p|} \left[\sum_{\pm} \tilde{g}_{i0} \left(\mp \left(\Lambda + \frac{|p|}{2} \right) + \frac{c+l}{2}, \pm \left(\Lambda + \frac{|p|}{2} \right) + \frac{c+l}{2}, p \right) \right. \end{aligned}$$

$$\begin{aligned}
& \times \tilde{g}_{f\pi} \left(\mp \left(\Lambda + \frac{|p|}{2} \right) + \frac{c-l}{2}, \mp \left(\Lambda + \frac{|p|}{2} \right) - \frac{c-l}{2}, p \right) \\
& + \sum_{\pm} \tilde{g}_{f0} \left(\mp \left(\Lambda + \frac{|p|}{2} \right) + \frac{c+l}{2}, \pm \left(\Lambda + \frac{|p|}{2} \right) + \frac{c+l}{2}, p \right) \\
& \times \tilde{g}_{i0} \left(\mp \left(\Lambda + \frac{|p|}{2} \right) + \frac{c-l}{2}, \mp \left(\Lambda + \frac{|p|}{2} \right) - \frac{c-l}{2}, p \right) \Big],
\end{aligned}$$

$$\begin{aligned}
\frac{d\tilde{g}_{b0}}{d\ell}(c, l, p) &= \frac{\Lambda}{8\Lambda + 4|c|} \left[\sum_{\pm} \tilde{g}_{f0} \left(c, \pm \left(\Lambda + \frac{|c|}{2} \right) + \frac{l+p}{2} + \Delta k_f, \mp \left(\Lambda + \frac{|c|}{2} \right) + \frac{l+p}{2} + \Delta k_f \right) \right. \\
& \times \tilde{g}_{b0} \left(c, \mp \left(\Lambda + \frac{|c|}{2} \right) + \frac{l-p}{2} - \Delta k_f, \mp \left(\Lambda + \frac{|c|}{2} \right) - \frac{l-p}{2} - \Delta k_f \right) \Big] \\
& + \frac{\Lambda}{8\Lambda + 4|c + 2\Delta k_{fl}|} \left[\sum_{\pm} \tilde{g}_{b0} \left(c, \pm \left(\Lambda + \frac{|c + 2\Delta k_{fl}|}{2} \right) + \frac{l+p}{2}, \mp \left(\Lambda + \frac{|c + 2\Delta k_{fl}|}{2} \right) + \frac{l+p}{2} \right) \right. \\
& \times \tilde{g}_{f\pi} \left(c + 2\Delta k_f, \mp \left(\Lambda + \frac{|c + 2\Delta k_{fl}|}{2} \right) \frac{l-p}{2}, \mp \left(\Lambda + \frac{|c + 2\Delta k_{fl}|}{2} \right) - \frac{l-p}{2} \right) \Big] \\
& - \frac{\Lambda}{8\Lambda + 4|p|} \left[\sum_{\pm} \tilde{g}_0 \left(\mp \left(\Lambda + \frac{|p|}{2} \right) + \frac{c+l}{2} + \Delta k_f, \pm \left(\Lambda + \frac{|p|}{2} \right) + \frac{c+l}{2} + \Delta k_f, p \right) \right. \\
& \times \tilde{g}_{b0} \left(\mp \left(\Lambda + \frac{|p|}{2} \right) + \frac{c-l}{2} - \Delta k_f, \mp \left(\Lambda + \frac{|p|}{2} \right) - \frac{c-l}{2} - \Delta k_f, p \right) \Big] \\
& - \frac{\Lambda}{8\Lambda + 4|p + 2\Delta k_{fl}|} \left[\sum_{\pm} \tilde{g}_{b0} \left(\mp \left(\Lambda + \frac{|p + 2\Delta k_{fl}|}{2} \right) + \frac{c+l}{2}, \pm \left(\Lambda + \frac{|p + 2\Delta k_{fl}|}{2} \right) + \frac{c+l}{2}, p \right) \right. \\
& \times \tilde{g}_{\pi} \left(\mp \left(\Lambda + \frac{|p + 2\Delta k_{fl}|}{2} \right) + \frac{c-l}{2}, \mp \left(\Lambda + \frac{|p + 2\Delta k_{fl}|}{2} \right) - \frac{c-l}{2}, p + 2\Delta k_f \right) \Big].
\end{aligned}$$