PHYSICAL REVIEW D **92,** 119901(E) (2015)

Erratum: Probing Wilson loops in the QCD instanton vacuum [Phys. Rev. D 91, 034023 (2015)]

Yizhuang Liu and Ismail Zahed

(Received 18 November 2015; published 1 December 2015)

DOI: 10.1103/PhysRevD.92.119901 PACS numbers: 12.38.Aw, 12.38.-t, 11.30.Rd, 99.10.Cd

Equations (41) and (46) were estimated by using the expansion [Eq. (40)] in leading order. The unexpanded results read

$$C^1(L) = \frac{g_\sigma^2 e^{-m_\sigma L}}{4\pi L}, \tag{1}$$

$$C_5^1(L) = \frac{g_\pi^2 e^{-m_{\eta'} L}}{4\pi L}. \tag{2}$$

For the same reasons, Eqs. (51) and (54) read

$$\frac{\langle F^2(x) W(C)\rangle}{\langle F^2\rangle\langle W(C)\rangle} = \frac{N_f}{64\pi^3 n}\frac{a_{qQ}^3\sigma_\star^4}{f_\sigma^2 g^2}\frac{e^{-m_s L}}{L}, \tag{3}$$

$$\frac{\langle F\tilde{F}(x) W(C)\rangle}{\langle W(C)\rangle} = \frac{8\pi k_{qqQ} g_\pi \chi_\star}{a_{qQ}^3 N_c f_\pi^2}\frac{e^{-m_{\eta'} L}}{L}. \tag{4}$$

Similarly, the contributions to the dipole-dipole potential in Eqs. (64) and (66) read

$$V_G(L) = -\frac{a^6}{2g^4}\frac{N_f\sigma_\star^4}{f_\sigma^2}\frac{e^{-m_s L}}{4\pi L} \tag{5}$$

and

$$V_1(L) = -\frac{\kappa_{qqQ}^2}{a_{qQ}^6}\frac{g_\sigma^2 e^{-m_\sigma L}}{2\pi L}. \tag{6}$$

In Ref. [1], the dipole-dipole potential was found to have a range fixed by the two-pion exchange instead of the isoscalar exchange. In the QCD instanton vacuum, the isoscalars are stable and leading in the mean-field analysis. They decay through two pions beyond the mean field.

[1] M. Giordano and E. Meggiolaro, Phys. Rev. D **92**, 096007 (2015).

