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Erratum

Erratum: Lattice gauge theory calculations in 1+1 dimensions and the approach to the continuum limit [Phys Rev. D 13, 2270 (1976)]

Allen Carroll, John Kogut, D. K. Sinclair, and Leonard Susskind

The coefficient of x^8 in Eq. (3.2) should be

$$\frac{5772+13772\mu+10800\mu^2+2800\mu^3}{4\alpha^7\beta^2\gamma}.$$

This error affects none of the other results of the paper. We thank C. J. Hamer for bringing this to our attention.

There was an error in the sixth-order energy-momentum relation for the vector particle. Replace Eq. (3.5) by

$$2\sqrt{x}\,\frac{E_V(p)}{g}=2\sqrt{x}\,\frac{E_V(0)}{g}+\frac{2(1-\cos k)}{\alpha}x^2+\left[\frac{(1-\cos 2k)}{\alpha^2}-\frac{4(1-\cos k)^2}{\alpha^3}\right]x^4$$
$$+\frac{1}{2\alpha^5}[(3\alpha^2+2\alpha-112)(\cos k-1)+(14\alpha+44)(\cos 2k-1)+(\alpha^2-2\alpha-4)(\cos 3k-1)]\,x^6 \qquad (3.5)$$

and replace Eq. (3.6d) by

$$2\sqrt{x}\,\frac{E_V(p)}{g}=2\sqrt{x}\,\frac{E_V(0)}{g}+2(1-\cos k)x^2+[(1-\cos 2k)-4(1-\cos k)^2]\,x^4$$
$$-\left[\tfrac{107}{2}(\cos k-1)-29(\cos 2k-1)+\tfrac{5}{2}(\cos 3k-1)\right]x^6\,. \qquad (3.6\text{d})$$

A good check of these results is made by noting that the vector particle becomes the scalar particle under the replacement $k\to k+\pi$. The formulas above explicitly satisfy this requirement.

The formulas concerning the kinetic mass must now be changed throughout the article. The good results reported earlier are not substantially changed, although the details are different. Equations (4.16)–(4.18) should read

$$2\sqrt{x}\,\frac{M_V^{\rm kin}}{g}=\frac{2}{1+2x^2-20x^4}\,, \qquad (4.16)$$

$$\frac{M_V}{M_V^{\rm kin}}=\tfrac{1}{2}(1+2y-10y^2)(1+2y-20y^2)\,, \qquad (4.17)$$

$$\frac{M_V}{M_V^{\rm kin}}=\tfrac{1}{2}(1+4y-26y^2)\to\frac{1}{2}\,\frac{1+10.5y}{1+6.5y}$$
$$\to 0.81\,. \qquad (4.18)$$

Finally, replace Eqs. (5.8) and (5.9) by

$$y^{1/4}\frac{M_V^{\rm kin}}{g}=\frac{1}{1+2y-20y^2}\,, \qquad (5.8)$$

$$\frac{M_V^{\rm kin}}{g}=\frac{1}{y^{1/4}}\left(\frac{1+10y}{1+12y}\right). \qquad (5.9)$$

The graph of $M_V^{\rm kin}/g$ vs y is still impressive—$M_V^{\rm kin}/g$ parallels the eighth-order calculation of M_V/g but it lies about 0.025 units higher over the range of y shown in Fig. 6.

The authors thank H. Bergknoff for an independent calculation of Eqs. (3.5) and (3.6d).