Erratum: Pseudoscalar pole terms in the hadronic light-by-light scattering contribution to muon $g-2$ [Phys. Rev. D 57, 465 (1998)]

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We found that the sign of the pseudoscalar meson pole contribution to the muon $g-2$ given in Eq. (5.1) was incorrect. It must be replaced by a positive quantity

$$a_\mu(\pi^0+\eta+\eta')=82.7\ (6.4)\times10^{-11}, \tag{1}$$

in agreement with the recent result obtained in Ref. [1]. Similarly, the axial-vector meson pole contribution in Eq. (1.9) must be replaced by

$$a_\mu(\text{axial-vector})=1.74\times10^{-11}. \tag{2}$$

The error originated from our unfortunate and unjustified assumption that the four-index quantity $\epsilon^{\mu_1\mu_2\mu_3\mu_4}$ transforms as a Lorentz-tensor in evaluating traces of γ matrices by an algebraic program FORM. Other contributions, (a) charged pion-loop contribution and (c) quark-loop contribution shown in Fig. 1, are not affected by this problem. Using the values of Eqs. (1) and (2) and those of (a) and (c) quoted in Eq. (1.8),

$$a_\mu(a)=-4.5\ (8.1)\times10^{-11},$$

$$a_\mu(c)=9.7\ (11.1)\times10^{-11}, \tag{3}$$

our best estimate for the hadronic light-by-light scattering contribution to the muon $g-2$ becomes

$$a_\mu(\text{had. LL})=89.6\ (15.4)\times10^{-11}. \tag{4}$$

A more detailed discussion is given in Ref. [2].

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[1] M. Knecht and A. Nyffeler, Phys. Rev. D **65**, 073034 (2002).   [2] M. Hayakawa and T. Kinoshita, hep-ph/0112102.