**Erratum: New predictions for generalized spin polarizabilities
from heavy baryon chiral perturbation theory
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We correct an error in our paper which affected a few expressions. After correcting some algebraic errors in the calculation, we give the correct result of Eq. (25) which should be

$$\begin{aligned}
 \alpha_{10}^{\text{NLO}} &= \frac{g_A^2}{64M_N\pi F_\pi^2} \left\{ \left[\frac{-2}{w} + \frac{4-6w^2}{4w+w^3} - \frac{4}{3} \cdot \frac{6+15w^2+2w^4}{4w+w^3} + \left(12 + \frac{6}{w^2} \right) \tan^{-1} \left(\frac{w}{2} \right) \right] \right. \\
 &\quad \left. + \frac{1}{2} [(1+\kappa_v) - (1+\kappa_s)\tau_3] \left[-\frac{4}{w} + \left(2 + \frac{8}{w^2} \right) \tan^{-1} \left(\frac{w}{2} \right) \right] \right\}, \\
 \alpha_{12}^{\text{NLO}} &= \frac{g_A^2}{64M_N\pi F_\pi^2} \left\{ \left[\frac{-6}{w} + 4w + \left(-4 + \frac{12}{w^2} \right) \tan^{-1} \left(\frac{w}{2} \right) \right] \right. \\
 &\quad + \frac{1}{2} [1+\kappa_v] \left[-\frac{10}{w} + \frac{w}{3} + \left(3 + \frac{20}{w^2} \right) \tan^{-1} \left(\frac{w}{2} \right) \right] \\
 &\quad \left. + \frac{1}{2} [(1+\kappa_s)\tau_3] \left[-\frac{6}{w} - \frac{w}{3} + \left(3 + \frac{12}{w^2} \right) \tan^{-1} \left(\frac{w}{2} \right) \right] \right\}. \tag{1}
 \end{aligned}$$

Consequently, Eq. (26) should be

$$\begin{aligned}
 [P^{(M1,L0)1}(\vec{q})]^{\text{NNLO}} &= \frac{g_A^2 \vec{q}}{96\sqrt{3}M_N\pi F_\pi^2} \left\{ \left[\frac{-14}{w} + 12w - \frac{8-12w^2}{4w+w^3} + \frac{8}{3} \cdot \frac{6+15w^2+2w^4}{4w+w^3} + \left(-36 + \frac{24}{w^2} \right) \tan^{-1} \left(\frac{w}{2} \right) \right] \right. \\
 &\quad + [1+\kappa_v] \left[-\frac{11}{w} + \frac{w}{2} + \left(\frac{5}{2} + \frac{22}{w^2} \right) \tan^{-1} \left(\frac{w}{2} \right) \right] \\
 &\quad \left. + [(1+\kappa_s)\tau_3] \left[-\frac{13}{w} - \frac{w}{2} + \left(\frac{13}{2} + \frac{26}{w^2} \right) \tan^{-1} \left(\frac{w}{2} \right) \right] \right\}. \tag{2}
 \end{aligned}$$

The result of Eq. (27) should be

$$\begin{aligned}
 [P^{(M1,L2)1}(\vec{q})]^{\text{NNLO}} &= \frac{-g_A^2}{48\sqrt{6}M_N\pi F_\pi^2 \vec{q}} \left\{ \left[\frac{-2}{w} + \frac{4-6w^2}{4w+w^3} - \frac{4}{3} \cdot \frac{6+15w^2+2w^4}{4w+w^3} + \left(12 + \frac{6}{w^2} \right) \tan^{-1} \left(\frac{w}{2} \right) \right] \right. \\
 &\quad \left. + [(1+\kappa_v) - (1+\kappa_s)\tau_3] \left[-\frac{2}{w} + \left(1 + \frac{4}{w^2} \right) \tan^{-1} \left(\frac{w}{2} \right) \right] \right\}. \tag{3}
 \end{aligned}$$

The result of Eq. (30) should be

$$\begin{aligned}
 [P^{(L1,L1)1}(\vec{q})]^{\text{N}^3\text{LO}} &= \frac{g_A^2 \vec{q}}{576M_N^2\pi F_\pi^2} \left\{ \left[\frac{12}{w} - 12w + 3 \cdot \frac{4-6w^2}{4w+w^3} - 4 \cdot \frac{6+15w^2+2w^4}{4w+w^3} + \left(48 - \frac{18}{w^2} \right) \tan^{-1} \left(\frac{w}{2} \right) \right] \right. \\
 &\quad + [1+\kappa_v] \left[\frac{9}{w} - \frac{w}{2} + \left(-\frac{3}{2} - \frac{18}{w^2} \right) \tan^{-1} \left(\frac{w}{2} \right) \right] \\
 &\quad \left. + [(1+\kappa_s)\tau_3] \left[\frac{15}{w} + \frac{w}{2} + \left(-\frac{15}{2} - \frac{30}{w^2} \right) \tan^{-1} \left(\frac{w}{2} \right) \right] \right\}. \tag{4}
 \end{aligned}$$

The expression of Eq. (30) can be further simplified as follows:

$$\begin{aligned}
[P^{(L1,L1)1}(\bar{q})]^{\text{N}^3\text{LO}} &= \frac{g_A^2 \bar{q}}{576 M_N^2 \pi F_\pi^2} \left\{ \frac{36 - 114w^2 - 20w^4}{w(4 + w^2)} + \left(48 - \frac{18}{w^2}\right) \tan^{-1}\left(\frac{w}{2}\right) \right. \\
&\quad + [1 + \kappa_v] \left[\frac{9}{w} - \frac{w}{2} + \left(-\frac{3}{2} - \frac{18}{w^2}\right) \tan^{-1}\left(\frac{w}{2}\right) \right] \\
&\quad \left. + [(1 + \kappa_s)\tau_3] \left[\frac{15}{w} + \frac{w}{2} + \left(-\frac{15}{2} - \frac{30}{w^2}\right) \tan^{-1}\left(\frac{w}{2}\right) \right] \right\}. \tag{5}
\end{aligned}$$

The result of Eq. (32) should be

$$\begin{aligned}
[\hat{P}^{(M1,2)1}(\bar{q})]^{\text{NNLO}} &= \frac{-g_A^2}{96\sqrt{10}M_N^2\pi F_\pi^2\bar{q}} \left\{ \left[\frac{-5}{w} + \frac{4 - 6w^2}{4w + w^3} - \frac{4}{3} \cdot \frac{6 + 15w^2 + 2w^4}{4w + w^3} + \left(\frac{29}{2} + \frac{12}{w^2}\right) \tan^{-1}\left(\frac{w}{2}\right) \right] \right. \\
&\quad \left. + [(1 + \kappa_v) - (1 + \kappa_s)\tau_3] \left[-\frac{2}{w} + \left(1 + \frac{4}{w^2}\right) \tan^{-1}\left(\frac{w}{2}\right) \right] + \tau_3 \left[-\frac{1}{w} + \left(\frac{1}{2} + \frac{2}{w^2}\right) \tan^{-1}\left(\frac{w}{2}\right) \right] \right\}. \tag{6}
\end{aligned}$$

We also find that

$$\frac{d}{d\bar{q}^2} [P^{(L1,L1)1}(\bar{q})]_{\bar{q}=0}^{\text{N}^3\text{LO}} = \frac{g_A^2}{(4\pi F_\pi)^2} \frac{1}{m_\pi^2} \cdot \frac{1}{9M_N} \cdot \left(-\frac{\pi}{8}\right) \cdot \frac{m_\pi}{M_N} \{13 + \kappa_v + (4 + 4\kappa_s)\tau_3\}. \tag{7}$$

None of the other expressions in the paper are affected by this error.