Erratum: Probing new physics and *CP* violation in $\nu_\tau n \to \Lambda_c \tau^- (\pi^- \nu_\tau)$ and $\bar{\nu}_\tau p \to \Lambda \tau^+ (\pi^+ \bar{\nu}_\tau)$ [Phys. Rev. D 113, 095005 (2026)]

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(Received 2 October 2026; published 4 November 2026)

DOI: 10.1103/y6tk-jldc

We found the sign of $\mathcal{P}_{TT}$ in Eq. (A14) was wrong. The corrected full equation reads

$$\begin{aligned}
\mathcal{P}_L &= -\frac{1}{\tilde{\mathcal{N}}(\omega, k\cdot p)}\left[\frac{|\vec{k}'|}{m_\tau}\tilde{\mathcal{N}}_{\mathcal{H}1}(\omega, k\cdot p) - \frac{|\vec{k}|}{M_n m_\tau}\left[|\vec{k}'| - \frac{k'^0}{|\vec{k}'|}(|\vec{k}| - |\vec{p}\,'|\cos\theta')\right]\tilde{\mathcal{N}}_{\mathcal{H}2}(\omega, k\cdot p)\right],\\
\mathcal{P}_T &= \frac{|\vec{k}||\vec{p}\,'|\sin\theta'}{|\vec{k}'|M_n}\frac{\tilde{\mathcal{N}}_{\mathcal{H}2}(\omega, k\cdot p)}{\tilde{\mathcal{N}}(\omega, k\cdot p)},\\
\mathcal{P}_{TT} &= \frac{|\vec{k}||\vec{p}\,'|\sin\theta'}{M_n^2}\frac{\tilde{\mathcal{N}}_{\mathcal{H}3}(\omega, k\cdot p)}{\tilde{\mathcal{N}}(\omega, k\cdot p)},
\end{aligned} \tag{1}$$

where we have corrected the sign of $\mathcal{P}_{TT}$ and have also added the previously missing $(\omega, k\cdot p)$ dependence to the $\tilde{\mathcal{N}}_{\mathcal{H}3}$ factor.

This affects the numerical value of the asymmetry defined in Eq. (17) of the paper. Though Eq. (17) itself is correct, the fact that the asymmetry is proportional to $\mathcal{P}_{TT}$ causes its numerical value to change sign. As a result, the quantity $\Delta\sigma/\sigma\,(\%)$ shown in Tables I and II should change sign. The new tables are shown here.

TABLE I. *CP* asymmetry $\Delta\sigma$ [Eq. (17) of the published paper] and total cross-section variations $(\sigma - \sigma_{\rm SM})$ for the $\nu_\tau n \to \Lambda_c \tau^- (\pi^- \nu_\tau)$ reaction, evaluated at $E_\nu = 10$ GeV for a fully left-handed ν_τ beam. The SM total cross section is $\sigma_{\rm SM} = (0.0056^{+0.0049}_{-0.0018}) \times 10^{-38}$ cm^2, where the uncertainties take into account both the statistical and systematics errors in the determination of the form factors. The central value is used in this work. The NP effects are generated by assuming that one of the Wilson coefficients $C^S_{dc\tau LL}$, $C^S_{dc\tau RL}$, or $C^T_{dc\tau LL}$ is nonzero and purely imaginary. See the published paper for further details.

$C^S_{dc\tau LL}$	$\frac{\Delta\sigma}{\sigma}\,(\%)$	$\frac{\sigma-\sigma_{\rm SM}}{\sigma_{\rm SM}}\,(\%)$
$0.01i$	-0.13	2.8×10^{-3}
$0.03i$	-0.39	2.6×10^{-2}
$C^S_{dc\tau RL}$	$\frac{\Delta\sigma}{\sigma}\,(\%)$	$\frac{\sigma-\sigma_{\rm SM}}{\sigma_{\rm SM}}\,(\%)$
$0.01i$	-0.072	2.8×10^{-3}
$0.03i$	-0.22	2.6×10^{-2}
$C^T_{dc\tau LL}$	$\frac{\Delta\sigma}{\sigma}\,(\%)$	$\frac{\sigma-\sigma_{\rm SM}}{\sigma_{\rm SM}}\,(\%)$
$0.001i$	-4.4×10^{-3}	6.7×10^{-4}
$0.007i$	-3.1×10^{-2}	6.5×10^{-2}

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TABLE II. *CP* asymmetry $\Delta\sigma$ [Eq. (17) of the published paper] and variations of the total cross section $(\sigma - \sigma_{\rm SM})$ for the $\bar{\nu}_\tau p \to \Lambda\tau^+(\pi^+\bar{\nu}_\tau)$ reaction, evaluated at $E_{\bar{\nu}} = 5$ GeV for a fully right-handed $\bar{\nu}_\tau$ beam. The NP effects are generated by assuming that one of the scalar Wilson coefficients $C^S_{su\tau LL}$ or $C^S_{su\tau RL}$ is nonzero and purely imaginary. Two sets of hadronic form factors are considered: the LQCD form factors from Ref. [38] and the phenomenological form factors from Ref. [39], which yield SM total cross sections of $\sigma_{\rm SM} = 0.00124 \times 10^{-38}$ cm^2 and $\sigma_{\rm SM} = 0.00045 \times 10^{-38}$ cm^2, respectively. See the published paper for further details.

	FFs from Ref. [38]		FFs from Ref. [39]	
$C^S_{su\tau LL}$	$\frac{\Delta\sigma}{\sigma}(\%)$	$\frac{\sigma-\sigma_{\rm SM}}{\sigma_{\rm SM}}(\%)$	$\frac{\Delta\sigma}{\sigma}(\%)$	$\frac{\sigma-\sigma_{\rm SM}}{\sigma_{\rm SM}}(\%)$
$0.01i$	−0.26	0.51	0.13	0.01
$0.1i$	−1.74	51	1.26	1.08

	FFs from Ref. [38]		FFs from Ref. [39]	
$C^S_{su\tau RL}$	$\frac{\Delta\sigma}{\sigma}(\%)$	$\frac{\sigma-\sigma_{\rm SM}}{\sigma_{\rm SM}}(\%)$	$\frac{\Delta\sigma}{\sigma}(\%)$	$\frac{\sigma-\sigma_{\rm SM}}{\sigma_{\rm SM}}(\%)$
$0.01i$	0.40	0.51	0.14	0.01
$0.1i$	2.68	51	1.4	1.08

Note however that the main conclusion about this asymmetry, namely that a nonzero value will indicate the presence of *CP*-violating new physics beyond the standard model, remains the same.