Erratum: Chiral Effective Field Theory Predictions for Muon Capture on Deuteron and ^{3}He [Phys. Rev. Lett. 108, 052502 (2012)]

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The relation between the low-energy constants (LECs) c_D and c_E in, respectively, the three-nucleon contact interaction and the two-nucleon contact axial current was given erroneously in Ref. [1]. The correct relation reads [2]

$$d_R = -\frac{M_N}{4\Lambda_\chi g_A} c_D + \frac{1}{3} M_N (c_3 + 2c_4) + \frac{1}{6}. \tag{1}$$

As a consequence of this error, the results of the Letter change as follows: (1) Figure 2 in the Letter should be replaced by Fig. 1 of this Erratum (note that Fig. 1 in the Letter showing the c_D-c_E trajectories remains unchanged). (2) Tables I and II of the Letter are to be replaced by Tables I and II of this Erratum.

Differences between the results presented in Table II and the original table are generally very small, and therefore the conclusions of the Letter remain unchanged. The error above has also affected the studies of the proton-proton weak capture in Ref. [3] and muon capture in Ref. [4]. However, we expect the results and ensuing conclusions of those studies to remain unchanged as well since the LECs c_D (or d_R) and c_E are still constrained by fitting the same observables as in the Letter and, in particular, lead to the same enhancement as in the Letter needed to reproduce the tritium Gamow-Teller (GT) matrix element.
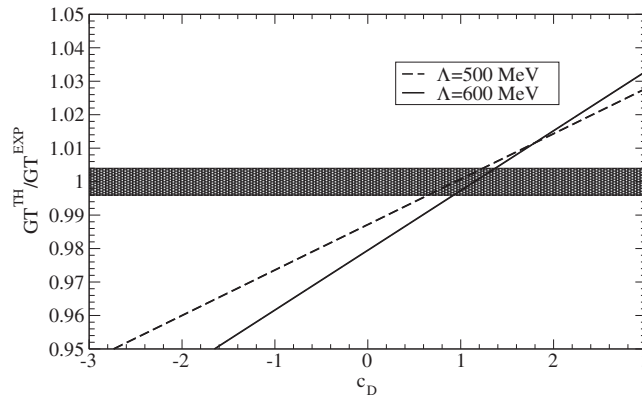

FIG. 1. The ratio $\text{GT}^{\text{TH}}/\text{GT}^{\text{EXP}}$ as a function of the LEC c_D.

TABLE I. The LECs g_{4S} and g_{4V} associated with the isoscalar and isovector nucleon-nucleon contact terms in the electromagnetic current for $\Lambda = 500$ and 600 MeV. See the Letter for further explanation.

	$\{c_D, c_E\}$	g_{4S}	g_{4V}
$\Lambda = 500$ MeV	$\{1.24, 0.001\}$	0.501 ± 0.006	0.883 ± 0.003
	$\{0.65, -0.083\}$	0.500 ± 0.005	0.885 ± 0.003
$\Lambda = 600$ MeV	$\{1.37, -0.576\}$	0.447 ± 0.006	0.659 ± 0.003
	$\{0.92, -0.643\}$	0.437 ± 0.006	0.644 ± 0.003

TABLE II.   Total rates for muon capture on deuteron $\Gamma(^2\mathrm{H})$ and $^3\mathrm{He}$ $\Gamma(^3\mathrm{He})$, in sec^{-1}, corresponding to $\Lambda = 500$ and 600 MeV. The one-body (IA) and (one + two)-body (FULL) contributions are listed, along with the individual partial-wave contributions to $\Gamma(^2\mathrm{H})$. Theoretical uncertainties in the FULL results, not reported when below 0.1 sec^{-1}, are due to the fitting procedure.

	$^1S_0$	$^3P_0$	$^3P_1$	$^3P_2$	$^1D_2$	$^3F_2$	$\Gamma(^2\mathrm{H})$	$\Gamma(^3\mathrm{He})$
IA($\Lambda = 500$ MeV)	238.8	21.1	44.0	72.4	4.5	0.9	381.7	1355
IA($\Lambda = 600$ MeV)	238.7	20.9	43.8	72.0	4.5	0.9	380.8	1351
FULL($\Lambda = 500$ MeV)	253.7 ± 0.9	20.3	47.0	72.0	4.5	0.9	398.4 ± 0.9	1488 ± 10
FULL($\Lambda = 600$ MeV)	253.3 ± 1.0	20.1	46.7	71.6	4.5	0.9	397.1 ± 1.0	1495 ± 9

[1] D. Gazit, S. Quaglioni, and P. Navrátil, Phys. Rev. Lett. **103**, 102502 (2009).
[2] R. Schiavilla (unpublished).
[3] L. E. Marcucci, R. Schiavilla, and M. Viviani, Phys. Rev. Lett. **110**, 192503 (2013).
[4] L. E. Marcucci and R. Machleidt, Phys. Rev. C **90**, 054001 (2014).