
Errata

**Erratum: Reid soft-core potential and parity nonconserving effects
in thermal-neutron capture by protons [Phys. Rev. C 11, 349 (1975)]**

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A sign error in our work has come to light. The consequences are that R and W of Eq. (5c) should be redefined with opposite sign as

$$R = -(D_0 F_0 + 2D_1 F_1), \quad W = -D_0 F_1 + D_1 (F_1 - F_1). \quad (5c)$$

As a result, all reported numerical values of P_γ and α (and also of the Danilov parameters λ_s , λ_t , C) should have their signs reversed. With these corrections, our value of P_γ agrees favorably with those of Rustgi and Pirner,¹⁶ Desplanques,¹⁷ and Danilov,¹⁸ and with our earlier work¹⁹ which incorporated the Danilov approximation.

It is useful to point out that our calculations are performed in the center-of-mass reference frame with relative coordinate $\vec{r} = \vec{r}_p - \vec{r}_n$, or, equivalently, with relative momentum $\vec{k} = \frac{1}{2}(\vec{k}_p - \vec{k}_n)$.

We also wish to point out a typographical error

in the expression for F_1 , which should be defined

$$F_1 = 6^{-1/2} (M_{111,01}^\epsilon - M_{011,11}^\epsilon) + \frac{1}{2} \sqrt{\frac{2}{3}} (M_{211,11}^\epsilon - M_{111,21}^\epsilon). \quad (5e)$$

Furthermore the entries in Table II under RSC(2, D), corresponding to $M_{011,11}^\epsilon$ and $\alpha \times 10^9$ should read 0.359 and 3.19 instead of 0.205 and 3.64, respectively. Finally, the last sentence of the fourth to last paragraph, should point out that our predicted deuteron P -state probabilities are "a factor of 10 smaller than the P -state probabilities obtained by Hadjimichael and Fischbach,⁸" instead of being "in good agreement" with them.

We are grateful to Dr. Desplanques and Dr. Pirner for discussions which exposed our sign error, and to Dr. Desplanques for providing us with details from his correspondence with Dr. Danilov.

¹⁶M. L. Rustgi and H. J. Pirner, Phys. Rev. C 10, 2099 (1974); Dr. Pirner has kindly pointed out to us that their definition of P_γ bears the opposite sign to our definition.

¹⁷B. Desplanques, Orsay Report No. IPNO/TH 74-38 (unpublished).

¹⁸The values of λ_1 , λ_2 and C quoted by Danilov (Ref. 7) are of the wrong sign. This was pointed out by Dr.

Danilov in private communication to Dr. Desplanques.

¹⁹The sign error reported herein is also present in our earlier work (Ref. 9).

Erratum: Covariant pion-nucleus optical potential [Phys. Rev. C 11, 1593 (1975)]

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In Eqs. (3.14), (3.18), (3.19), (3.20), (3.22), (6.8), and (6.9) replace M_L , M'_L , and M''_L by $-M_L$, $-M'_L$, and $-M''_L$ when these quantities appear in a Clebsch-Gordan coefficient.

In Eq. (3.14) replace

$$\left(\frac{2I+1}{2L+1} \right) \text{ by } \left(\frac{2I+1}{2L+1} \right)^{1/2}.$$

In Eq. (3.17) replace subscript M by M_L .

In Eq. (6.8) replace $\tilde{\rho}_{s''s'}$ by $\tilde{\rho}_{s's''}$.

The second line of Eq. (5.2) should read

$$\times \{ (\tilde{p}_N^0 + M_N^*) [(\tilde{p}_N^0 + M_N^*) A + \frac{1}{2} (\vec{k}'^2 - \vec{k}^2) B + \frac{1}{2} (\tilde{p}_N^0 + M_N^*) (\tilde{p}^0 + \tilde{p}'^0) B] \}_{ft}.$$

The second and third lines of Eq. (5.9) should read

$$= -\{\sqrt{s}/(2\pi^2[M_N^*M_N'^*|\vec{k}_c\|\vec{k}'_c|]^{1/2})\} \\ \times \{f_0 - (\hat{k}'_c \cdot \hat{k}_c)f_1 + (\vec{I} \cdot \vec{\tau})_{fi}[f_2 - (\hat{k}'_c \cdot \hat{k}_c)f_3]\}.$$

The second line of Eq. (5.10) should read

$$= -\{\sqrt{s}/(2\pi^2[M_N^*M_N'^*|\vec{k}_c\|\vec{k}'_c|]^{1/2})\}[f_1 + (\vec{I} \cdot \vec{\tau})_{fi}f_3].$$

The second term in the first line of Eq. (5.18) should read

$$+ [(M_N^* + M_N'^* + p^0 + p'^0)(p_N'^0 + M_N'^*) + \vec{k}'^2 - \vec{k}^2][e_1^+ a_{fi}^* + e_1^- b_{fi}^*].$$

The factor of 2 in front of e_5^+ and e_5^- in the second line of Eq. (5.18) should be deleted.

Equation (5.19) should read

$$b_{fi} = e_0[(e_2^+ + e_3^+ - e_5^+)a_{fi}^* + (e_2^- + e_3^- + e_5^-)b_{fi}^*]/N.$$

A factor of 2 should be inserted in front of the right hand side of Eq. (5.20).