

Erratum: Neutrino reactions on the deuteron [Phys. Rev. C 63, 034617 (2001)]

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In the caption for Fig. 3, “Electron energy spectra” should read “Electron momentum spectra.” Correspondingly, the labels for the vertical axes in Fig. 3 should be changed; the label, $d\sigma/dE'_e$, is to be replaced with the label, $d\sigma/dp'_e$. (Here E'_e and p'_e are the electron energy and momentum, respectively.)

As stated in the article, we relegated the bulk of tabular and graphical presentation of the neutrino-deuteron (total and differential) cross sections to a website whose address was given in the same article. On this website, the following corrections have been made, and we have introduced new website addresses (see below).

- (i) In the tables and figures of the CC-reaction differential cross sections, the captions for the electron (positron) spectra, $d\sigma/dE_e$, have been changed into $d\sigma/dp_e$, where E_e and p_e are the electron (positron) energy and momentum, respectively. In the captions for the double differential cross sections, $d^2\sigma/dE_e d\Omega_e$ has been changed into $d^2\sigma/dp_e d\Omega_e$. The numerical values of the entries in the tables for the electron (positron) spectra and double differential cross sections remain the same as in the previous tabulation. We have added to the tables one column to indicate the value of p_e corresponding to a given value of E_e . As for the figures, the horizontal axis has been changed from E_e to p_e , and the figures themselves have also been modified according to the changes in the axes.
- (ii) Regarding the NC-reaction differential cross sections, we have recalculated them for $E_\nu < 17$ MeV to improve numerical accuracy, and the results of this new calculation have been tabulated on the website. In the previous tabulation, there was slight but noticeable inconsistency between the total NC cross sections in the tables (“direct” entries) and those obtained by integrating the NC differential cross sections given in the tables (“indirect” entries). This inconsistency was at the 0.3–2% level for $E_\nu < 4$ MeV and at the 0.2–0.3% level for $4 < E_\nu < 17$ MeV. With the use of the results of our new calculation tabulated on the website, the “direct” and “indirect” entries of the NC total cross sections are consistent with each other at the 0.1% level for the entire range $E_\nu < 20$ MeV. (For $E_\nu > 20$ MeV, the level of consistency between the “direct” and “indirect” entries in the previous tabulation was already good enough for practical purposes, because it was comparable to the quoted uncertainties of the calculation.)

We emphasize that the above-mentioned changes do *not* affect the total cross sections. Finally, we announce that the new tables and figures of the total and differential cross sections that have incorporated the above-mentioned corrections are available at: (<http://boson.physics.sc.edu/gudkov/NU-D-NSGK>), and (<http://www-nuclth.phys.sci.osaka-u.ac.jp/top>).

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