Erratum: Probing isospin symmetry in the (^{50}Fe , ^{50}Mn , ^{50}Cr) isobaric triplet via electromagnetic transition rates [Phys. Rev. C **99**, 044317 (2019)]

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The published $B(E2 \downarrow: 2^+ \rightarrow 0^+)$ value of $237(8) e^2\text{fm}^4$ for ^{50}Mn in this paper was obtained by using the measured lifetime value of the first 2^+ state in ^{50}Mn and the relative intensities of 64.1(12) and 100(2) for the 149- and 800-keV γ decays, respectively, taken from a table in Ref. [1]. With this erratum, we clarify that a choice was made in 2018 to consider the latest γ -ray intensities available and obtain the $M(E2)$ value for the $2^+ \rightarrow 0^+$ decay in ^{50}Mn . Here, we consider the current evaluated relative γ -ray intensities given in the National Nuclear Data Center (NNDC) [2], i.e., 100 (9) and 64 (8) for the 149- and 800-keV γ decays, respectively. This new analysis lowers the data point for ^{50}Mn given in this paper by 20% with a value of $28 e\text{fm}^2$ as shown in Fig. 1 (green square).

It should be noted that the uncertainties in matrix elements presented in this paper were higher by a factor of 2 due to a typographical error in the manipulation of plots. This is now corrected in Fig. 1, showing the correct uncertainties.

Figure 1 indicates that the original conclusion drawn in this paper, i.e., the linear $M(E2)$ versus T_z curve for $A = 50$ nuclei, may still be valid for the updated data points with the correct uncertainties and using the evaluated γ -ray intensities for ^{50}Mn from the NNDC [2]. However, the new data point for ^{50}Mn (in green in Fig. 1) strongly suggests that the $M(E2)$ versus T_z curve is more likely to be nonlinear. This warrants new simultaneous measurements of electromagnetic transition rates in the $A = 50$ triplet using the same experimental setup to eliminate systematic errors and investigate the nonlinearity. Such measurements will be crucial to critically assess the level with which isospin symmetry breaking occurs in mass 50 nuclei.

It is worth noting that the data presented in a table and a figure are inconsistent in Ref. [1].

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FIG. 1. The matrix element $M_{\text{tot}} [M(E2)]$ as a function of T_z for the three $T = 1$, $A = 50$ isobaric nuclei. Data for ^{50}Mn has been obtained for the first time in 2018 in this paper. Here, all the black data points are the same as those presented in this paper whereas the green data point for ^{50}Mn is new and corresponds to the updated analysis with branching ratios taken from Ref. [2].

[1] A. Schmidt, I. Schneider, C. Frießner, A. F. Lisetskiy, N. Pietralla, T. Sebe, T. Otsuka, and P. von Brentano, *Phys. Rev. C* **62**, 044319 (2000).

[2] <http://www.nndc.bnl.gov/ensdf/>