Erratum: Precision Mass Measurements on Neutron-Rich Rare-Earth Isotopes at JYFLTRAP: Reduced Neutron Pairing and Implications for *r*-Process Calculations [Phys. Rev. Lett. 120, 262701 (2018)]

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(Received 15 August 2019; published 24 March 2020)

DOI: 10.1103/PhysRevLett.124.129901

A recent remeasurement of the ^{163}Eu and ^{163}Gd mass excesses [1] by our group, using $^{133}Cs^{+}$ and $^{136}Xe^{+}$ as calibrants, respectively, revealed that the $^{163}Dy^{+}$ calibrant used in the measurement reported in [2] was incorrectly assigned. Following a detailed analysis presented in [1], it was found that the calibrant was most likely $^{146}La^{16}O^{1}H^{+}$, or its mixture with $^{163}Dy^{+}$.

During the same campaign [1] the mass excess of ^{162}Eu was also remeasured since the type and duration of the excitation for the measurement reported in [2] did not allow to resolve a low-lying isomeric state reported in [3]. The new JYFLTRAP measurements [1] were done both with the phase-imaging ion cyclotron resonance technique and also using a longer excitation time (1600 ms) in the time-of-flight ion cyclotron resonance measurements. The new ground and isomeric state mass-excess values of ^{162}Eu and ^{162}Eu^{m} reported in [1] agree with [3].

In conclusion, the mass-excess values of ^{162,163}Eu, and ^{163}Gd from [1] should be considered as superseding the ones from [2]. In [2], ^{163}Eu and ^{163}Gd made use of an incorrectly assigned calibrant, and the ^{162}Eu mass excess was a mixture of both ground state and isomeric state due to the type and length of the excitation used. We note that the changes in the mass-excess values of ^{162,163}Eu, and ^{163}Gd do not change the conclusions presented in [2]. The S_{2n} values do not support a subshell closure at $N = 100$ (see Fig. 1) and neutron pairing has been found to be weaker than predicted by the theoretical models (see Fig. 2). The S_n values change only a little with the revised ^{162,163}Eu and ^{163}Gd mass values, and hence the impact on the *r* process abundances is small. For details, see [1].

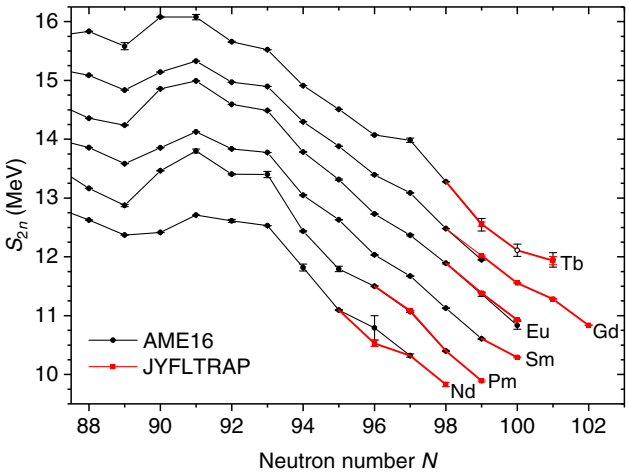

FIG. 1. Figure 2 of [2] with the revised mass-excess values of ^{162,163}Eu, and ^{163}Gd. Two-neutron separation energies S_{2n} from this work (red) together with the experimental (solid black circles) values and an extrapolated value for ^{165}Tb (open black circle) from AME16 [4].

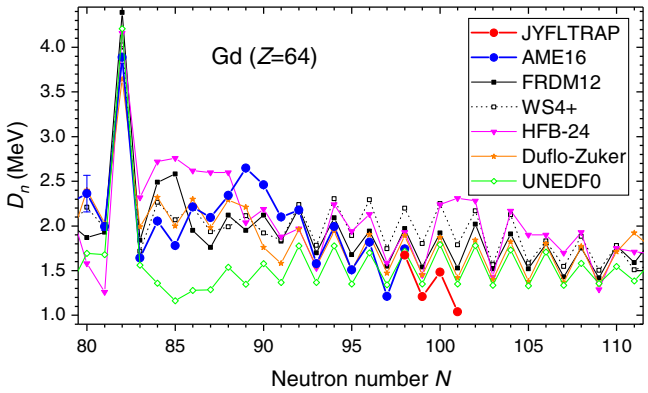

FIG. 2. Figure 3 of [2] with the revised mass-excess value of ^{163}Gd. Neutron pairing energies from this work (red circles) and AME16 (blue) in comparison with various theoretical predictions for the Gd isotopes.

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