Erratum: Direct Measurement of the ^{23}Na$(\alpha,p)^{26}$Mg Reaction Cross Section at Energies Relevant for the Production of Galactic ^{26}Al [Phys. Rev. Lett. 112, 152701 (2014)]

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In our Letter [Phys. Rev. Lett. **112**, 152701 (2014)] we reported the direct measurement of the ^{23}Na$(\alpha, p)^{26}$Mg reaction cross section at energies relevant for the production of Galactic ^{26}Al. Our results, which relied on the extracted absolute cross sections given in Table I, have been found to be in error, overestimating the reported cross sections by a factor of 100. In the experiment, protons from the reaction were measured in an annular silicon strip detector placed downstream from a cryogenic ^{4}He gas target. The cross sections were normalized to the yield of scattered ^{23}Na ions from a separate Au foil in an upstream monitor detector. The data acquisition system was triggered by a logic "OR" of the proton detector and the "downscaled" monitor detector. The monitor detector rate was downscaled in order to reduce dead time in the data acquisition system. The down-scale factor was $n = 100$, while in the analysis, the factor was mistakenly taken as $n = 1$. Therefore, the cross section numbers given in Table I should be divided by a factor of 100. The stellar rate reported in our Letter should also be down scaled by the same factor of 100, which makes it in agreement, within the experimental uncertainties, with the recommended rate.

This problem came to light due to results from recent experiments where the same reaction was studied in regular and inverse kinematics [1,2]. Those studies obtained similar results and were in disagreement with our measurement. A subsequent experiment by our group was carried out with a different technique to verify the results. In this experiment, an active target and detector system measures both the heavy ^{26}Mg recoils as well as the incoming ^{23}Na beam, thus avoiding normalization errors [3]. The new results [3] are in agreement with the reported results [1,2] and also with the values in our Letter, within their experimental uncertainties, if the down-scale factor is correctly included.

[1] A. M. Howard, M. Munch, H. O. U. Fynbo, O. S. Kirsebom, K. L. Laursen, C. A. Diget, and N. J. Hubbard, Phys. Rev. Lett. **115**, 052701 (2015).
[2] J. R. Tomlinson *et al.*, Phys. Rev. Lett. **115**, 052702 (2015).
[3] M. Avila *et al.* (to be published).

