

Erratum: Accurate Measurement of Electron Beam Induced Displacement Cross Sections for Single-Layer Graphene [Phys. Rev. Lett. 108, 196102 (2012)]

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Two errors have occurred in the calculations for Fig. 4(a) of the original Letter. First, the graphene atomic areal density, which is needed to convert the slopes from Fig. 3 to the experimental data points in Fig. 4(a), should be $3.82 \times 10^{19} \text{ m}^{-2}$ (a value of $3.31 \times 10^{19} \text{ m}^{-2}$ was used). As a result, the correct experimental cross sections are lower by 13.5%.

Second, Eq. (10) in the Supplemental Material for the original Letter should have read

$$P(v, T)dv = \frac{1}{\sqrt{2\pi v^2}} \exp\left(\frac{-v^2}{2v^2}\right)dv$$

in order to satisfy $\int_{-\infty}^{+\infty} P(v, T)v^2 dv = \overline{v^2}$. When using the corrected formula and experimental cross sections, the best fit to the data is for a threshold energy of $T_{\text{thr}} = 23.6 \text{ eV}$. Figure 1 of this erratum shows the corrected version of the figure, with all curves for $T_{\text{thr}} = 23.6 \text{ eV}$.

The conclusions of the Letter are not significantly affected. With the above corrections, the agreement of the experimental T_{thr} with the first-principles value of 22 eV [1] is less perfect but still quite good. Indeed, the corrected formula provides a better match between the calculated curve and experimental data points. Correlated sputtering [previous Fig. 4(b), shaded area in previous Fig. 4(a)] is no longer needed to explain the data.

We thank A. Robertson and V. Artyukhov for comments that led to the discovery of these errors. We include a computer script for calculating sputtering cross sections in the presence of lattice vibrations as Supplemental Material [2].

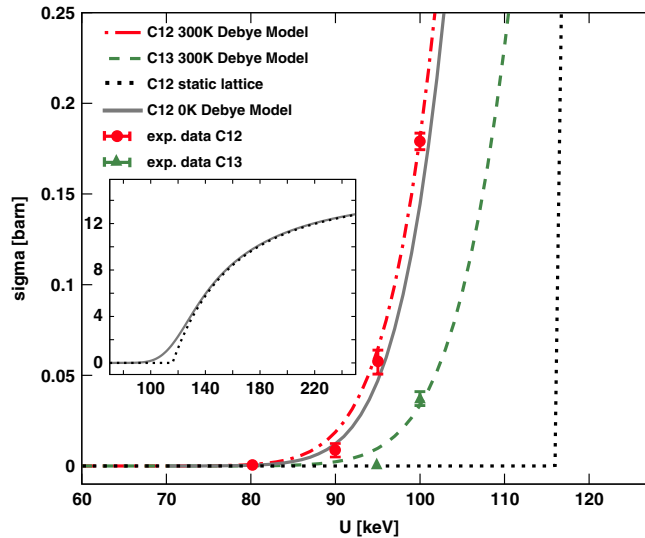


FIG. 1 (color online). Measured and calculated knock-on displacement cross sections. The inset shows the calculations for ^{12}C , 300 K, and static lattice on a larger energy range.

[1] J. Kotakoski, C. Jin, O. Lehtinen, K. Suenaga, and A. Krasheninnikov, *Phys. Rev. B* **82**, 113404 (2010).

[2] See Supplemental Material at <http://link.aps.org/supplemental/10.1103/PhysRevLett.110.239902> for a computer script for calculating sputtering cross sections in the presence of lattice vibrations.