

Erratum: Melting behavior of aluminum up to 160 GPa: Consistency between dynamic and hydrostatic compression experiments [Phys. Rev. B 112, 064106 (2025)]

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In Sec. IV of the original paper, the fitting for the melting curve of Al was found to be incorrect. We have reanalyzed the melting data using the Simon-Glatzel equation, adopting reference conditions of ambient pressure ($P_0 = 0$ GPa) and melting temperature ($T_0 = 933$ K). The fitting procedure incorporated the experimental uncertainties, with iterative optimization of the chi-squared tolerance down to 1×10^{-9} , which ensured convergence of the fitting curve. The resulting coefficient of determination (0.982 24) confirms the high accuracy and reliability of the revised fit.

The refitted parameters are $a = 25.62(4.51)$ and $b = 1.11(0.09)$. These parameters supersede the parameter sets on p. 4 of the original paper.

Since both Figs. 4 and 5 in the original paper contain this melting curve, we provide revised versions of these figures below to replace the originals. The newly fitted melting curve exhibits only minor differences compared to the ones originally presented in Figs. 4 and 5 of the original paper. Therefore, these corrections do not affect the results or conclusions of the paper.

On p. 5, the slopes of the fitted melting curve at ambient pressure, 40 GPa, 100 GPa, 125 GPa, and 160 GPa should be corrected to 32.8 K/GPa, 29.9 K/GPa, 28.0 K/GPa, 27.5 K/GPa, and 26.9 K/GPa, respectively.

Additionally, there is a typographical error in the units in the original Table I: “ P_H (km/s)” should be changed to “ P_H (GPa)” and “ P_I (km/s)” should be changed to “ P_I (GPa).”

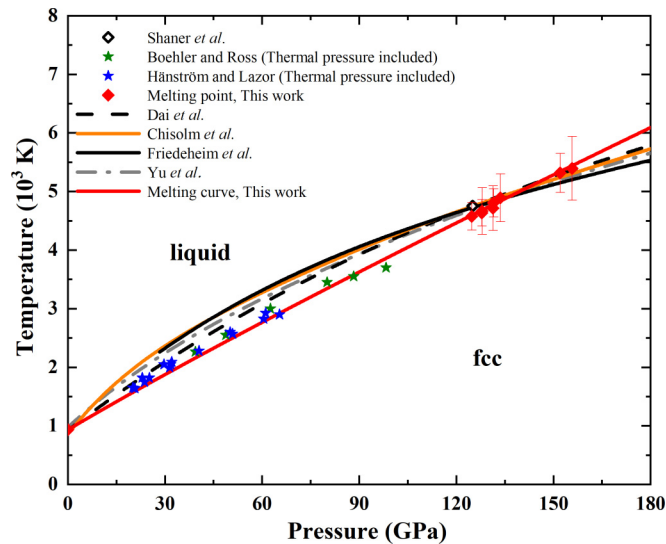


FIG. 4. Comparison of Al melting curves. Red solid diamonds indicate Al melting points at P_H and P_I (the red solid diamond at zero-pressure corresponds to 933 K). The solid red line denotes the Simon melting curve that has been fitted in this study. The black open diamond represents prior shock-experiment results [19]. Green and blue solid pentagons denote thermal-pressure-corrected DAC melting data [10]. The orange solid line, black dashed line, gray dash-dotted line, and black solid line represent melting lines from theoretical simulations [14–17].

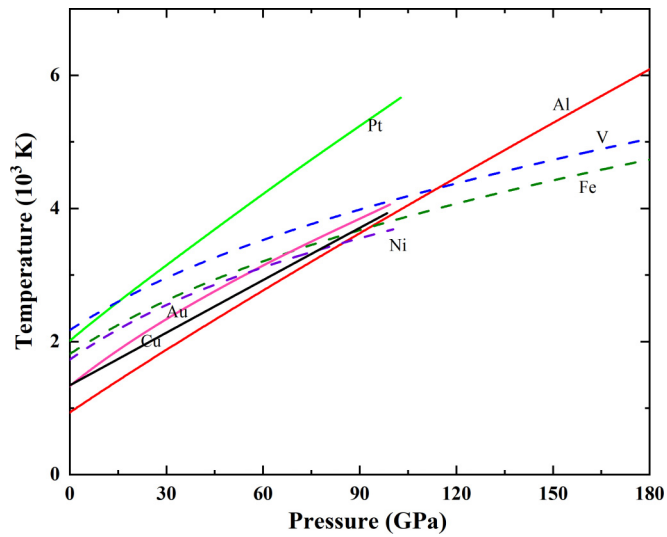


FIG. 5. Melting curves of fcc and bcc metals at high pressures. The green solid line, pink solid line, black solid line, red solid line, blue dashed line, dark green dashed line, and purple dashed line correspond to experimentally obtained melting lines of Pt [23], Au [24], Cu [25], Al, V [45], Fe [46], and Ni [47], respectively.

These corrections do not alter the findings or the main conclusions of the paper.

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DATA AVAILABILITY

The data that support the findings of this article are not publicly available. The data are available from the authors upon reasonable request.