Erratum: Thermomolecular Pressure Difference Measurements for Precision Helium-3 and Helium-4 Vapor-Pressure Thermometry

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Errata

Erratum: Pople-Like SCF–LCAO–MO Treatment of 77′, 88′-Tetracyanoquinodimethan and Its Univalent Anion

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In Eq. (31), correct $\langle {}^2\chi_2 \mid \mathcal{H} \mid {}^2\chi_3 \rangle$ to read

$$\langle {}^2\chi_2 \mid \mathcal{H} \mid {}^2\chi_3 \rangle = (2^{-1/2})[2(m-1, m+1 \mid G \mid m+1, m) - (m-1, m+1 \mid G \mid m, m+1) + (m-1, m \mid G \mid m, m)].$$

Because of the symmetry of TCNQ, $\langle {}^2\chi_2 \mid \mathcal{H} \mid {}^2\chi_3 \rangle$ is zero in both the originally reported form and in this corrected form. Consequently, the calculations and conclusions reported remain the same.

We wish to thank Dr. John E. Bloor of the University of Virginia who questioned some of my expressions for the matrix elements in Eq. (31). This provided the incentive for my rederiving these expressions. We also wish to thank Dr. John C. Schug of V. P. I. and A. C. Lilly of the Philip Morris Research Center who reviewed my rederivations.

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Erroneous input quantities were used in the calculations for several of the curves in Fig. 19 on page 1017.

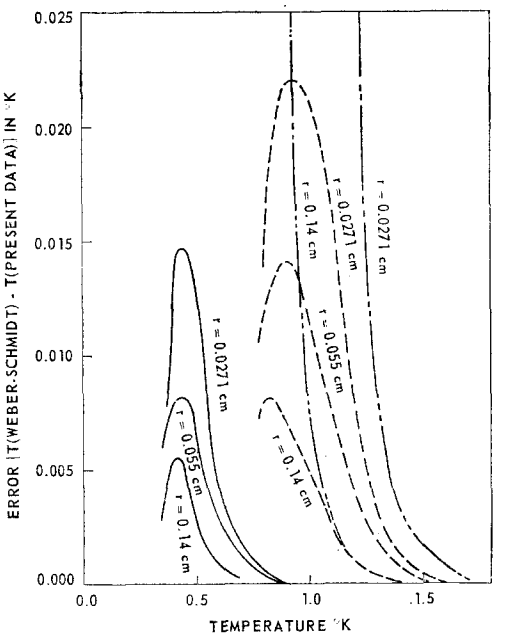

FIG. 1. Approximate differences in temperatures deduced using the 1958 helium-4 and 1962 helium-3 vapor-pressure scales of temperature with different thermomolecular pressure corrections. The smoothed curves represent the difference between Weber–Schmidt corrections and corrections based on the present data assuming $\Delta P(0.29\text{ cm})$ to be well described by the Weber–Schmidt equation. On the saturated vapor curves the temperature coordinate is the temperature of liquid in equilibrium with the vapor at the existing pressure. For comparison, on the unsaturated-gas curves the temperature coordinate is arbitrarily taken to be this same equilibrium temperature even though the experimental temperature was higher. This expedient is not seriously misleading since for unsaturated gas the cold temperature dependence is slight. (— — — —), saturated ^{4}He; (— — —), unsaturated ^{4}He; (——), saturated and unsaturated ^{3}He.

The corrected version of this figure is shown in Fig. 1. We wish to thank Professor D. F. Brewer for pointing out discrepancies which led to the discovery of the errors.