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ZERO-FIELD HYPERFINE RESONANCE OF ATOMIC HYDROGEN FOR $0.18 \leq T \leq 1$ K: THE BINDING ENERGY OF H ON LIQUID ^4He . M. Morrow, R. Jochemsen, A. J. Berlinsky, and W. N. Hardy [Phys. Rev. Lett. 46, 195 (1980)].

The experimental results presented in this Letter for the temperature dependence of the hyperfine frequency shift and recombination rate of H in the presence of ^4He -coated surfaces were obtained with use of a commercially calibrated Ge resistance thermometer which was immersed in the ^4He bath surrounding the sample cell. The calibration of this thermometer has recently been checked with use of an NBS 768 superconducting fixed-point device and found to be substantially incorrect.

A complete *in situ* recalibration of the Ge ther-

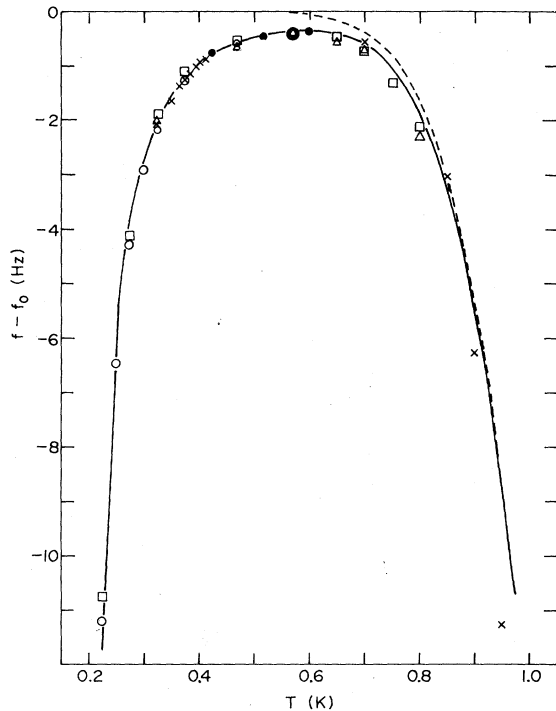


FIG. 1. Plot of the hyperfine frequency shift $f - f_0$ vs temperature. The solid line is a plot of Eq. (3) with $E_B = 1.15$ K, δ_B chosen to be the value measured at 1K (see Refs. 5 and 13) and the unperturbed frequency f_0 chosen to give the best fit. The dashed line shows the bulk pressure shift contribution. Different symbols correspond to experiments on different days. The solid dots represent a superposition of the other four symbols.

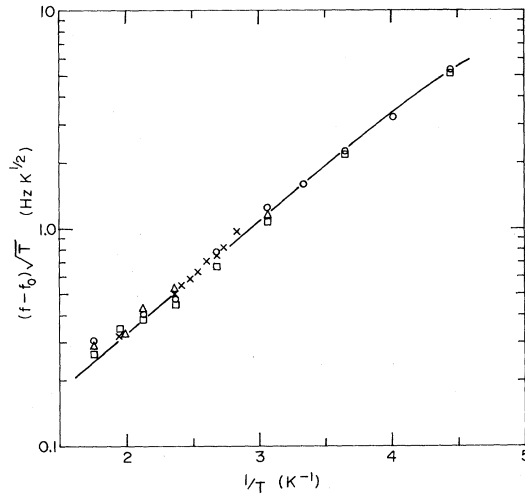


FIG. 2. Hyperfine frequency shift plotted as $(f - f_0)T^{1/2}$ vs $1/T$, showing the exponential activation. The solid line is a fit with Eq. (1a) using $E_B = 1.15$ K and $\Delta_s = 49$ kHz.

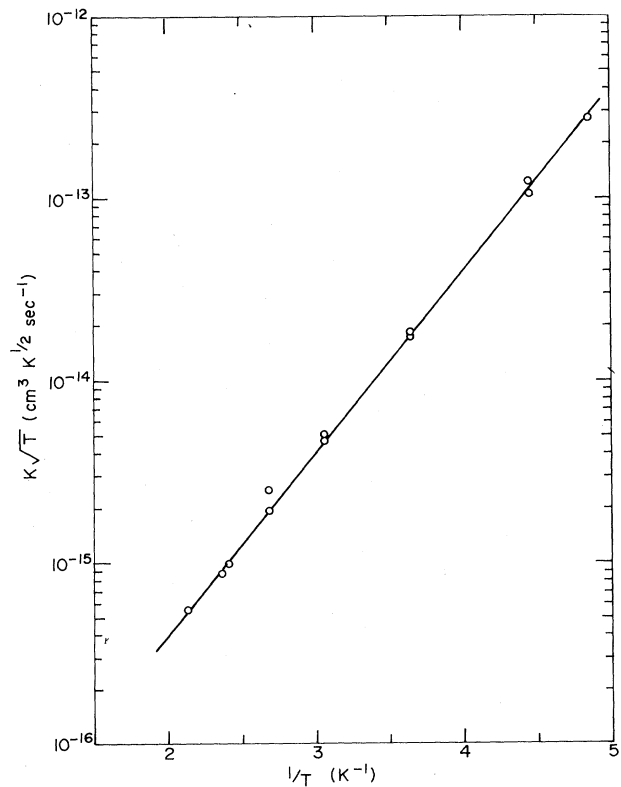


FIG. 3. Measured recombination rate plotted as $K\sqrt{T}$ vs $1/T$. The straight line corresponds to an activation energy of $2E_B = 2.30$ K.

momometer was then performed with use of the fixed-point device and a CMN thermometer which was also immersed in the ^4He bath surrounding the sample cell. The frequency shift and recombination data were then replotted against the corrected temperature scale and reanalyzed.

The results are summarized in revised Figs. 1, 2, and 3. Figure 1 shows the behavior of the frequency shift $f - f_0$ vs T , which is qualitatively unchanged. Figures 2 and 3 imply the following parameters for H on liquid ^4He : $E_B = 1.15 \pm 0.05$ K for the binding energy, $\lambda = 0.20 \pm 0.03$ Å for the surface recombination cross section, and $\Delta_s = 49 \pm 2$ kHz for the (negative) frequency shift on the surface.

Finally we note that there is an inconsistency in the usage of Δ_s in Eq. (1), where in fact $2\pi\Delta_s$ should be substituted for Δ_s .

METASTABLE ELECTRON-HOLE-PAIR SELF-TRAPPING AT A DEEP CENTER IN InP. A. Sibille and A. Mircea [Phys. Rev. Lett. 47, 142 (1981)].

On page 144, first column, eighth line, the citation of Ref. 7 is incorrect. The correct reference is as follows: K. Murayama, K. Morigaki, S. Sakuragi, and H. Kanzak, J. Phys. Soc. Jpn. 41, 1617 (1976).