

TABLE 1. THE TEMPERATURE AND PRESSURE COEFFICIENTS OF THREE SAMPLES OF COPPER

T (°K)	R (Ω)	$\frac{1}{R} \frac{dR}{dp_{\text{obs.}}}$ (%/1000 atm)	$\frac{1}{\rho_i} \frac{d\rho_i}{dp}$ (%/1000 atm)	$\frac{dR}{dT_{\text{obs.}}}$ ($\Omega^\circ \text{C}^{-1}$)	$\frac{T}{\rho_i} \frac{d\rho_i}{dT}$
sample I					
298.6	11.0826	-0.214	-0.240 ± 0.005	43.1×10^{-3}	1.17
83.5	1.6086	-0.35	-0.396 ± 0.01	42.6	2.35
61.5	0.75778	-0.46	-0.554 ± 0.02	32.1	2.97
25.1	0.11462	-0.09	-0.80 ± 0.04	3.73	4.42
9.75	0.093727	+0.065	—	0.123	4.3
4.2	0.093447	+0.067	$+0.045 \pm 0.01\dagger$	0.0	—
sample II					
293.5	2.7249	-0.170	-0.195 ± 0.005	10.9×10^{-3}	1.18
78.2	0.34336	-0.333	-0.374 ± 0.005	10.2×10^{-3}	2.45
4.2	0.017490	+0.05	$+0.03\dagger \pm 0.01$	—	—
4.2§	0.017550	+0.03	$+0.01\dagger \pm 0.01$	—	—
sample III					
291.1	0.060500	-0.189 ± 0.004	—	19.4×10^{-5}	—
80.0	0.019641	-0.080 ± 0.01	—	17.7	—
78.0§	0.019468	-0.068 ± 0.004	—	—	—
26.5	0.013256	$+0.041 \pm 0.005$	—	0.0	—
4.5	0.014808	$+0.03 \pm 0.03$	—	-12.5	—
4.2§	0.015048	$+0.056 \pm 0.015$	—	—	—

† The error in these values is about 1 % except at the lowest temperature where it rises to about 2 %.

‡ Pressure coefficient of residual resistivity.

§ In liquid baths.

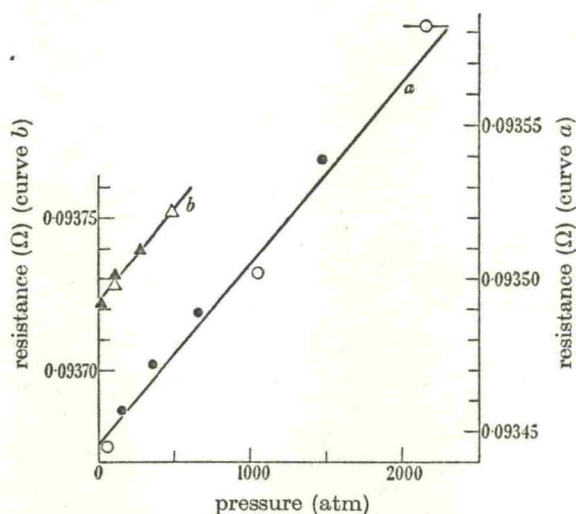


FIGURE 1. The pressure dependence of the resistance of copper (sample I). (a) shows measurements of the residual resistance using solid helium as the pressure-transmitting medium, and (b) shows measurements of residual resistance at 9.75° K under truly hydrostatic pressure (see text). The open points represent measurements made with increasing pressure and the solid points those with decreasing pressure.

The behavior of pressure on the first, t

resistance (Ω)

FIGURE 2. The behavior of the minimum resistance (Ω) on the first, t

FIGURE 3. The behavior of the minimum resistance (Ω) on the first, t

we had expected jacket. We decided to use the liquid helium at 2000 atm at 4.2° K. The resistance