

(1) Fig. 3 shows the resistance of rubidium (sample 2) at two pressures (100 and 2500 atm.) in the temperature range around the anomaly, illustrating also the thermal hysteresis effects. It appears that because of temperature hysteresis and because the anomaly has no very well defined temperature it is impossible to judge from Fig. 3 whether the temperature of the anomaly is changed by pressure. However, the measurements on sample 1, for which the anomaly is more clearly defined, indicate that if there is a change it is certainly small.

The effect of pressure on sample 3 was also measured. It showed a considerably larger pressure coefficient than sample 2.

(2) In the lower temperature range, illustrated in Fig. 4, one sees that the high pressure and low pressure curves cross at about 6° K. This is because although the effect of pressure on the thermal component of resistance is always to lower it, the residual resistance (see below) is raised by pressure.

At about 25° K. helium under 2500 atm. pressure solidifies. Here we have approximately constant volume conditions since the pressure-filling tube is

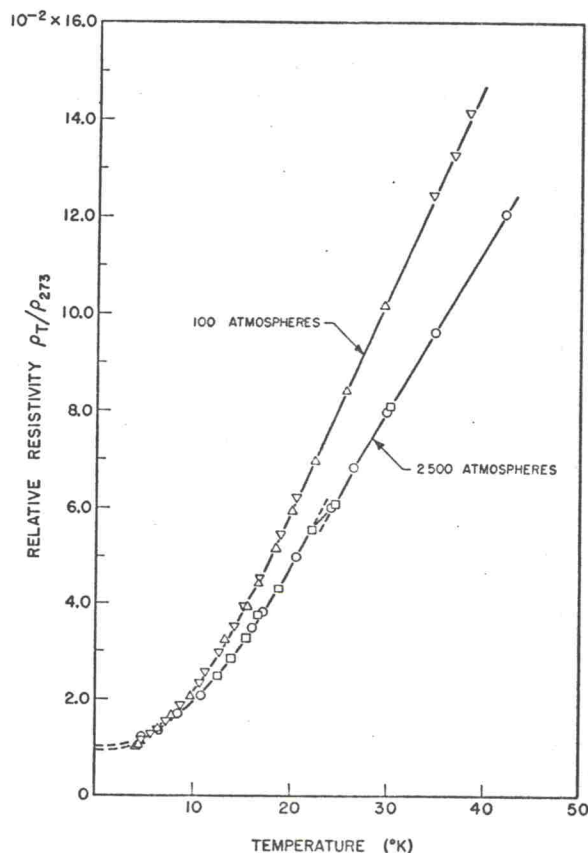


FIG. 4. The relative resistivity of a rubidium sample at low temperatures.

arranged to be slightly cooled at 25° K. solidification of the temperature has fallen to 22° K. (Dugdale and Simon 1953) and at the lowest temperatures.

Because of the marked resistance-temperature curve in the temperature region. This is shown in Fig. 3.

After the measurement of the resistance at three different starting temperatures at the same pressure, the temperature was returned to its initial value and the measurements have been compared with those of White and Woods (private communication).

(3) The effect of pressure on the resistance of rubidium (applying the highest pressure of 2500 atm. and measuring the resistance above 25° K. and the pressure was again cooled to 2° K. being raised each time to 25° K. the pressure was lowered.

From these measurements the residual resistivity of about +4% was observed.

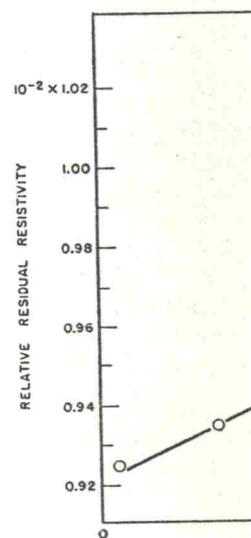


FIG. 5. The residual resistivity of a rubidium sample.