with T in ^{o}K. The error does not include any contribution from S_{Cu} which was taken to be $0.05 + (5.45 \times 10^{-3})T\ \mu V/^{o}K$.

This result is the mean of several runs of different specimens in steel and tantalum sheaths. Agreement between the runs at a given pressure was very satisfactory but the differences between them, though small, were not small compared with the effect of 1000 bar. However, the effect of pressure on any one specimen was always of the same sign and magnitude and by measuring $S(p, T)$ at various pressures, values of $(\partial S/\partial p)_T$ could be found. This quantity is positive, i.e. S becomes less negative when mercury is compressed. $V(\partial S/\partial V)_T$, which can be found by combining $(\partial S/\partial p)_T$ with the compressibilities found by Postill et al. [9], is therefore negative and gets more so as the density decreases, at least for low temperatures.

The errors in measuring $(\partial S/\partial V)_T$ are considerable especially at low temperatures where the compressibility is least, but there the more accurate method of Schmutzler and Hensel [10] is available and the agreement between the two experiments is satisfactory. The results and an estimate of error are shown in fig. 1.

The negative sign of $(\partial S/\partial V)_T$ is in agreement with Animalu's theoretical result [11] but the latter was derived from a formula which cannot get the right sign for S itself.

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ACTION OF DISLOCATIONS ON PINNING IN A SUPERCONDUCTING SINGLE CRYSTAL

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The influence of dislocations on the pinning of Abrikosov's flux lines in a $Ta_{70}Nb_{30}$ single crystal is studied. It has turned out that at small deformations ($\Delta l/l = 4\%$), when compared with a non-deformed crystal, the coupling energy of the flux lines with the lattice imperfections increases, while at large deformations ($\Delta l/l = 42\%$) the pinning vanishes completely within the accuracy provided by our equipment.

We have studied the dissipative processes and pinning in type II superconductors by current-free methods [1-5] and it has turned out that these effects depend greatly on the strength of the magnetic field, on temperature and on the state of the specimen.

We have now investigated the pinning phenomenon of Abrikosov's flux lines on surface imperfections of a $Ta_{70}Nb_{30}$ crystal, and the present note deals with the pinning on line imperfections existing in the volume of the crystal lattice. These dislocations were generated by compres-