

The difference between the calculated and experimental curve in Fig. 5 can be ascribed to deviations from Matthiessen's rule. The limited accuracy to which the various pressure derivatives can be determined does not allow a very enlightening comparison of the deviations between the different alloys. The significant deviation observed does indicate the importance of considering deviations from Matthiessen's rule in pressure studies of the resistivity of alloys.

Acknowledgments

The author wishes to express his appreciation to Dr. A. R. Du Charne, Dr. R. W. Lynch, Dr. G. A. Samara and Dr. J. E. Schirber for helpful discussions and to C. W. Huddle for his expert technical assistance.

References

- [1] J. S. DUGDALE, in: *Advances in High Pressure Research*, Vol. 2, Ed. R. S. BRADLEY, Academic Press, New York 1969 (p. 101). (References to the original studies are given in this review.)
- [2] W. S. GOREE and T. A. SCOTT, *J. Phys. Chem. Solids* **27**, 835 (1966).
- [3] J. S. DUGDALE, in: *Physics of Solids at High Pressures*, Ed. C. T. TOMIZULSA and R. M. EMRICK, Academic Press, New York 1965 (p. 16).
- [4] J. E. SCHIRBER, *Cryogenics* **10**, 418 (1970).
- [5] P. W. BRIDGMAN, *Proc. Amer. Acad. Arts Sci.* **68**, 27 (1933).
- [6] P. W. BRIDGMAN, *Proc. Amer. Acad. Arts Sci.* **77**, 189 (1949).
- [7] C. A. ALERS and J. R. NEIGHBOURS, *Bull. Amer. Phys. Soc.* **3**, 70 (1958).
- [8] J. S. DUGDALE and Z. S. BASINSKI, *Phys. Rev.* **157**, 552 (1967).
- [9] R. G. STEWART and R. P. HUEBENER, *Phys. Rev.* **B1**, 3323 (1970).
- [10] M. H. LENNSEN and A. MICHELS, *Physica (Utrecht)* **2**, 1091 (1935).
- [11] L. NORDHEIM, *Ann. Phys. (Germany)* **9**, 655 (1931).
- [12] W. J. O'SULLIVAN, J. E. SCHIRBER and J. R. ANDERSON, *Solid State Commun.* **5**, 525 (1967).
- [13] J. E. SCHIRBER and W. J. O'SULLIVAN, *Colloque International du C.N.R.S. 188, "Sur les propriétés physiques des solides sans pression"*, Grenoble 1970 (p. 113).
- [14] J. M. ZIMAN, *Phys. Rev.* **121**, 1320 (1961).
- [15] A. R. DU CHARME and L. R. EDWARDS, *Phys. Rev.* **B2**, 2940 (1970).
- [16] E. HAGA, *J. Phys. C (Metal Phys. Suppl.)* **1**, 510 (1970).
- [17] B. SEGALL, *Phys. Rev.* **125**, 109 (1962).
- [18] N. F. MOTT and H. JONES, *The Theory of the Properties of Metals and Alloys*, Clarendon Press, Oxford 1936, reprinted Dover, N.Y., 1958.
- [19] D. BEAGLEHOLE and E. ERLBACK, *Solid State Commun.* **8**, 255 (1970).

(Received February 10, 1972)

and form a common
ing potential could
e derivative of the
agreement between
Au alloys is some-
introduced into the
es not account for
the Ag-Au alloys.
uld be a reflection
ith concentration.
ce of $d \ln \rho_0 / d \ln V$
ch as the Cu-Ag
d Ag are not very
ing potentials in-
t for the observed
ys.

loys as compared
Au suggests that
 $\rho^{-1} d\rho/dP$ for the
following simple
t two terms in (3)
ence of $\rho^{-1} d\rho/dP$.
ained from Goree
f ρ_1 was obtained
re obtained from
ctions should be
300 °K and was
s of (3) and the
pared for the $c =$
and 0.75 alloys.
emperature depend-
determined the
P. Typically at
here $\rho_1^{-1} d\rho_1/dP$
sign, the magni-
a result of the

ature dependence of
re derivative of the
5 at % Ag alloy