

TABLE IV. Transport coefficients of argon at 1 atm. pressure parallel to an applied magnetic field.

T ° K	$\sigma$ mho/cm.	$D_e^T$ gm/cm-sec	$\lambda_e$ mW/cm-°K	$\lambda_h$ mW/cm-°K	$\lambda_r$ mW/cm-°K
3000	5.96,-7*	-9.12,-16	9.42,-9	1.00	-
4000	1.27,-3	-3.03,-12	2.48,-5	1.23	-
5000	0.103	-2.96,-10	2.13,-3	1.44	1.31,-4
6000	1.01	-2.07,-9	3.12,-2	1.63	2.82,-3
7000	3.61	-3.14,-9	0.188	1.82	2.55,-2
8000	9.23	3.13,-9	0.586	2.00	0.134
9000	17.7	2.19,-8	1.37	2.16	0.487
10000	27.3	5.39,-8	2.64	2.25	1.35
11000	37.3	9.82,-8	4.37	2.16	3.07
12000	47.4	1.52,-7	6.44	1.78	5.79
13000	57.4	2.14,-7	8.80	1.24	8.96
14000	66.7	2.79,-7	11.3	0.763	10.9
15000	74.9	3.45,-7	13.8	0.454	9.91
16000	82.0	4.09,-7	16.1	0.290	6.76
17000	88.1	4.71,-7	18.5	0.214	3.81
18000	93.7	5.33,-7	20.8	0.183	1.96
19000	98.8	5.96,-7	23.2	0.177	0.954
20000	104.	6.63,-7	25.7	0.180	0.502
22000	108.	7.83,-7	30.3	0.201	0.163
24000	105.	8.82,-7	34.4	0.233	7.37,-2
26000	102.	9.78,-7	38.5	-	-
28000	104.	1.10,-6	43.4	-	-
30000	109.	1.25,-6	49.3	-	-
35000	117.	1.64,-6	64.6	-	-

\* 5.96,-7  $\equiv$  5.96  $\times$  10<sup>-7</sup>

## FIGURE CAPTIONS

- Fig. 1. Charge transfer cross sections for argon vs. relative energy.
- Fig. 2. Components of argon thermal conductivity ( $B=0$ ) at 1 atm. pressure.  
 $\lambda_e$ : electron component;  $\lambda_h$ : atom + ion component;  $\lambda_r$ : reactive thermal conductivity;  $\lambda_a$ : pure atom thermal conductivity.
- Fig. 3. Electron thermal conductivities,  $\lambda_e^\perp$  and  $\lambda_e^H$ , in argon at 1 atm pressure for magnetic fields of 25 and 100kG.
- Fig. 4. Hall parameter  $|\omega_e|\tau_e$  as a function of temperature for 1 atm argon with  $B=5, 25$  and 100kG.
- Fig. 5. Perpendicular and Hall components of electrical conductivity of argon at 1 atm pressure for  $B=5, 25$  and 100kG.
- Fig. 6. Heavy (atom + ion) and reactive thermal conductivities of argon at 0.01 atm pressure showing effect of an applied field of 100kG. Note that the Hall components are negative.
- Fig. 7. Electrical conductivity of argon at 10000<sup>o</sup>K as a function of pressure with:  
 A - cut-off cross sections, B - static-shielded cross sections (Ref. 4),  
 C - dynamic-shielded cross sections (Ref. 26).
- Fig. 8. Electrical conductivity of argon at 12000<sup>o</sup>K as a function of pressure.  
 Symbols as in Fig. 7.
- Fig. 9. Electrical conductivity of argon at 1 atm pressure compared with experiments.  
 - : theory with electron and ion shielding in Debye length; -.- : theory with electron shielding only.
- Fig. 10. Thermal conductivity of argon at 1 atm compared with experimental measurements.