where all the quantities are to be evaluated at T_1. From the experimental data we compute $(\partial T/\partial \bar{q})_\lambda$ and solve (47) for $(\partial T/\partial \lambda)_{\bar{q}}$ with λ set to unity. Since $\Delta T = (\partial T/\partial \lambda)_{\bar{q}} \Delta\lambda$, where ΔT is the temperature difference at $(T_1, \bar{q})$ between the measured curve and the curve calculated using α (Vinen), we can determine $\Delta\lambda$ and hence $\alpha' = (1 + \Delta\lambda)\alpha$ and new values of A. Table II lists some results of these computations and presents a comparison with values of A as obtained by several other workers. For Slit III′ and $T_1 = 1.800°$, $1.900°$, and $2.000°$K, A has been given for two values of T_0; in each case intermediate values of A would be obtained from heating curves beginning at a temperature between these two limits of T_0. It can be seen from Table II that the experiments are rather well represented by Vinen's values of A. Whereas these considerations may not be useful in any attempt to improve upon Vinen's $A(T)$, it is evident from them that any set of $A(T)$ that is substantially different from those given by Vinen—e.g., as indicated by Brewer and Edwards (*17*) or by Kramers *et al.* (*18*)—would not be compatible with the experiments of I and II.

From the arguments presented above and other comparisons with the data of I and II we have concluded that of the various models we have examined, calculations made using Vinen's $A(T)$, $m = 3$, and $\mathbf{v}_c = 0$ provide the best overall representation for the experimental data for the 3.36 μ and 2.12 μ slits. The general character of the agreement may be observed from an examination of Fig. 3 and 4, where families of the heat flow curves for the 3.36 μ slit are presented as observed and as computed, respectively. A more quantitative comparison for heat flow is presented in Fig. 5, where $[(\dot{Q}_{obs} - \dot{Q}_{calc})/\dot{Q}_{obs}] \times 100$

TABLE II

COMPARISON OF VALUES OF $A(T)$ OBTAINED FROM HEATING CURVES FOR SLIT III′ WITH VALUES OBTAINED BY OTHER WORKERS

T_1(°K)	T_0(°K) (This work only)	$A(T_1)$(cm sec gm^{-1})			
		Slit III′ $d = 3.36 \times 10^{-4}$ cm	Vinen (*4*) d = 0.4 cm, 0.24 cm	Kramers *et al.* (*18*) d = 0.26 cm	Brewer and Edwards (*17*) d = 0.011 cm, 0.37 cm
1.700	1.083	60 (−7)[a]	75	37[b]	110
1.800	1.083	98 (6)	91	42	140
	1.586	97 (4)			
1.900	1.083	128 (15)	110	52	185
	1.698	117 (5)			
2.000	1.083	150 (20)	135		260
	1.794	111 (−14)			

[a] Numbers in parentheses indicate $(T_{obs} - T_{calc})$ in millidegrees at $(T_1, \bar{q})$.

[b] *Note added in proof:* In the Proceedings of the Eighth International Conference on Low Temperature Physics (London, England, Sept. 16–22, 1962; to be published) Wiarda and Kramers have reported that new measurements of $A(T)$ are in complete agreement with the results of Vinen.