covered in the tables is as follows:

Smith-Munn: $1 \leq C \leq 20$,

$.004 \leq T^* \leq 200$ but

$$T^* \leq \begin{cases} 0.4 & \text{for } C = 1 \\ 4.0 & \text{for } C = 2 \end{cases}$$

Samuylov-Tsitelauri: $1 \leq \beta \leq 5$ $(.307 \leq C \leq 4.307)$

$.01 \leq T^* \leq 20$

We see that somewhat different ranges of the variables are available in the two works. Of importance in many applications is the fact that the ST values extend to lower values of C and their model is much more realistic for high T^* and low C.

The accuracy of possible interpolation procedures in the tables was checked by applying them to obtain a tabulated value. For the ST work, linear interpolation vs. T^* was judged to be accurate to better than 0.75% while interpolation vs. $\ln \beta$ yielded results accurate to within 0.6%, both adequate for the present work. For work where higher accuracy is required, these figures can be improved to better than 0.1% with $\ln \Omega$ vs. $\ln T^*$ or $\ln \beta$ interpolation. Higher accuracy yet is obtained with a Lagrange 3-point formula using logarithmic arguments.

APPENDIX B

Included in this appendix are some of the formulae as used for the computations and which were judged too complicated to include in the text. The numerical factors are computed under the assumption that $\overline{Q}^{(\ell,s)}$ will be given in units of $\mathring{A}^2$ and that c.g.s. units are used for other quantities except where otherwise indicated.

Heavy thermal conductivity:

$$\lambda_h \equiv \lambda_h^{\perp} + i\,\lambda_h^{H} = -\,C_1 \frac{T^{\frac{1}{2}}}{|q^{11}|} \begin{vmatrix} q_{11}^{11} & q_{12}^{11} & x_1 \\ q_{21}^{11} & q_{22}^{11} & x_2 \\ \frac{x_1}{M_1^{\frac{1}{2}}} & \frac{x_2}{M_2^{\frac{1}{2}}} & 0 \end{vmatrix} , \qquad \text{(B1)}$$

where

$$C_1 = \frac{75k}{8}\,(2\pi\overline{R})^{\frac{1}{2}} = 2.9582 \times 10^{5}, \qquad \text{(B2)}$$

$$q_{ij}^{11} = -\,8\,x_i\,x_j\,M_j\,M_i^{3/2}\,[13.75\,\overline{Q}_{ij}^{(1,1)} - 15\,\overline{Q}_{ij}^{(1,2)} + 12\,\overline{Q}_{ij}^{(1,3)}$$
$$-\,4\,\overline{Q}_{ij}^{(2,2)}\,]/(M_i + M_j)^{5/2}, \quad (i \neq j) \qquad \text{(B3)}$$

$$q_{ji}^{11} = \frac{M_j^{\frac{1}{2}}}{M_i^{\frac{1}{2}}}\,q_{ij}^{11}, \qquad \text{(B4)}$$

$$q_{ii}^{11} = 8\,x_i \left\{ \sqrt{2}\,x_i\,\overline{Q}_{ii}^{(2,2)} + \sum_{\ell \neq i} x_\ell \frac{M_\ell^{\frac{1}{2}}}{(M_i + M_\ell)^{5/2}} \right.$$
$$\left[1.25\,(6M_i^2 + 5M_\ell^2)\,\overline{Q}_{i\ell}^{(1,1)} - 15M_\ell^2\,\overline{Q}_{i\ell}^{(1,2)} + 12\,M_\ell^2\,\overline{Q}_{i\ell}^{(1,3)} \right.$$
$$\left. \left. + \,4M_i M_\ell \overline{Q}_{i\ell}^{(2,2)} \right] \right\} + i\,C_2\,\frac{\omega_i x_i}{n} \left(\frac{M_i}{T} \right)^{\frac{1}{2}}, \qquad \text{(B5)}$$

$$C_2 = \frac{15}{4} \left(\frac{2\pi}{\overline{R}} \right)^{\frac{1}{2}} = 1.0308 \times 10^{13}, \qquad \text{(B6)}$$

and

$$\omega_i = \frac{e\,z_i\,BA}{c\,M_i} = 9.6503 \times 10^{3}\,\frac{z_i B}{M_i} \qquad \text{(B7)}$$