of flux per unit energy interval, the admixture being controlled by an epithermal index r. For $r = 0$, the spectrum is a pure Maxwellian.

Using this spectrum, the effective cross section, σ can be written as

$$\sigma = \sigma_{2200}(g + rs)$$

where σ_{2200} is the microscopic absorption cross section at 2200 m/sec. The g and s factors depend on the shape of the absorption cross section as a function of neutron energy. Specifically for nuclides obeying the $1/v$ law over the entire energy range, $g = 1$ and $s = 0$.

The accuracy of the results obtained depends on the input data used which, in general, has been taken from the 1958 revision of the Brookhaven *Neutron Cross Section Compilation*. Tables of σ and g and s factors in 20 centigrade degree steps from 20°C to 760°C are listed for $r = 0.03$ or $r = 0.07$. These values of r correspond to average parameters appropriate for the moderator and fuel rods respectively of the NRX Reactor. In some instances σ for $r = 0$ are given. Elements which follow the $1/v$ law fairly closely in the thermal region do not usually have g values listed. The applicability of the compilation is limited to well moderated reactors and to thin samples in which self shielding has been neglected.

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20[T].—ALVIN GLASSNER, *The Thermochemical Properties of the Oxides, Fluorides, and Chlorides to 2,500° K*, Argonne National Laboratory ANL-5750, U. S. Government Printing Office, Washington, D. C., 1957, vi + 74 p., 27 cm. Price $.45.

This table gives empirical equations for the thermodynamic properties per mole (heat capacity Cp, enthalpy H, entropy S, and gives free energy F) in the form of power series in the absolute temperature T. The heat capacity at constant pressure is fitted to the equation:

$$C_p = a + (b \times 10^{-3})T + (c \times 10^{-6})T^2 + \frac{d \times 10^5}{T^2}$$

Only three parameters are evaluated; either c or d is set equal to zero. Integration of the heat capacity to give H, S, and F requires two additional constants of integration, A and B. The coefficients are tabulated for solid, liquid, and gaseous states of the elements (Table I—3 p.), the oxides (Table II—4 p.), the fluorides (Table III—5 p.) and the chlorides (Table IV—5 p.). Each of these tables includes, in addition, the heat and entropy of the phase transitions, the entropy at 298°K, and appropriate references to the source material. Tables V, VI, and VII give the enthalpy and free energies of formation of each substance from the elements at 298°K, as well as the coefficients Δa, Δb, Δc, Δd, ΔA, and ΔB needed to calculate values at other temperatures.

The publication concludes with 21 pages of graphs showing the temperature dependence of ΔF_f from 300° to 2500°K.

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