

TABLE I

The Frequency-Dependent Complex Inverse Relaxation Lengths for the Fundamental Energy Mode and the First Energy Harmonic

$$(B_1^2 = 5.96 \times 10^{-4} \text{ cm}^2, v \Sigma_a = 90.04 \text{ sec}^{-1} \rho = 1.60 \text{ g/cm}^3)$$

Frequency (cps)	$\rho_{0r}(10^{-1})$		$\rho_{0i}(10^{-1})$		$\rho_{1r}(10^{-1})$		$\rho_{1i}(10^{-1})$		Experimental Values	
	33 points	45 points	$\rho_{0r}(10^{-1})$	$\rho_{0i}(10^{-1})$						
0	0.79928	0.79865	0	0	0.95119	0.97472	0	0	$0.79 \pm 0.01$	$0 \pm 0.0003$
100	0.82420	0.82256	0.17999	0.17616	0.95470	0.97879	0.083773	0.08965	$0.82 \pm 0.01$	$0.173 \pm 0.003$
200	0.88266	0.87937	0.33334	0.32688	0.96505	0.99053	0.16549	0.17712	$0.90 \pm 0.01$	$0.319 \pm 0.004$
300	0.95284	0.94811	0.45850	0.45009	0.98135	1.0088	0.24386	0.26078	$0.98 \pm 0.01$	$0.449 \pm 0.003$
400	1.0247	1.0186	0.56251	0.55249	1.0023	1.0319	0.31816	0.33980	$1.07 \pm 0.01$	$0.523 \pm 0.004$
500	1.0949	1.0874	0.65134	0.63997	1.0266	1.0586	0.38814	0.41396	$1.15 \pm 0.01$	$0.61 \pm 0.01$
600	1.1624	1.1533	0.72900	0.71648	1.0532	1.0876	0.45391	0.48343	$1.23 \pm 0.01$	$0.69 \pm 0.01$
700	1.2272	1.2164	0.79810	0.78461	1.0813	1.1181	0.51574	0.54859	$1.27 \pm 0.01$	$0.75 \pm 0.01$
800	1.2893	1.2768	0.86038	0.84602	1.1102	1.1494	0.57399	0.60985	$1.36 \pm 0.01$	$0.82 \pm 0.01$
900	1.3491	1.3346	0.91700	0.90181	1.1396	1.1810	0.62903	0.66765	$1.41 \pm 0.01$	$0.87 \pm 0.02$

harmonic, respectively, are shown in Table I along with the experimental  $\rho_0$ . It is interesting to note that  $\rho_1(w)$  is coincident with the frequency-dependent limit point of the continuum. Thus, the value of  $\rho_1^2$  at  $w = 0$  is given by  $\rho_1^2(w = 0) = B_1^2 + [\Sigma_i(E)/D(E)]_{\min}$  which is consistent with the discussion above. Incorporated into  $\rho_0(w)$  are the diffusion and thermalization parameters of interest. The differences between the 33-point and 45-point calculations is on the order of one percent.

The most stringent empirical test of the convergence of the eigenfunction expansion of the complex flux is to determine how much change occurs in the complex flux when the number of eigenfunctions used in the expansion is increased. An insignificant change in this reconstructed, complex flux shows that the expansion has stabilized and

one can therefore offer justification to the assumption that the expanded solution has converged to the correct solution. The results of this empirical test are shown in Fig. 2, where the energy dependence of the complex flux at the source plane ( $Z = 0$ ) and at 45-cm penetration depth are shown for a neutron wave experiment conducted at 500 cps. As shown in the Figure, the 33- and 45-point calculations agree extremely well; differences are on the order of one percent. Similar results were obtained at other frequencies.

It is evident that the 33-point representation of the eigenfunction expansion method yields results within a few percent of those obtained with a 45-point representation. This empirical test of the 33-point representation strongly supports its accuracy.

## CORRIGENDUM

FEROZ AHMED, P. S. GROVER, and L. S. KOTHARI, "Neutron-Wave Propagation Through a Crystalline Moderator—I: Beryllium," *Nucl. Sci. Eng.*, **31**, 484 (1968).

On page 489, in the right-hand column read " $\omega_s$ " for " $\omega^*$ ".

Delete the third sentence at the end of the second full paragraph in the right-hand column of page 489 beginning with "This value for  $\omega^*$  . . . Eq. (31)."

In Fig. 5 the solid line should have a different scale. The actual values are smaller than shown by a factor of 10. This would imply that the two curves will intersect only at very high frequency and not at 1750 rad/sec as mentioned in the second full paragraph of the right-hand column of page 489.