

HC13. Two-Group Neutron Transport Theory. C. E. SIEWERT AND P. S. SHIEH, *North Carolina State University*.—Case's method of singular normal modes is used to construct solutions to the 2-group neutron transport equations in one dimension.¹ Full-range completeness and orthogonality theorems for these eigensolutions are proved and the necessary normalization integrals are presented. In addition, functions orthogonal to the degenerate eigensolutions are developed so that all expansion coefficients can be found by simply taking scalar products. As an example of the method, the exact solution for the infinite medium Green's function is obtained.

¹ K. M. Case, *Ann. Phys. (N. Y.)* 9, 1 (1960).