

**FC2. Radiative Transfer in an Electron Scattering Atmosphere.** C. E. SIEWERT AND S. K. FRALEY, *North Carolina State University*.—The equations of radiative transfer for an electron scattering atmosphere, as developed by Chandrasekhar,<sup>1</sup> are solved using the method of singular eigensolutions.<sup>2</sup> The eigenfunctions of the set of coupled transport equations have been found. There are 2 discrete eigenvectors and 2 linearly independent, degenerate, singular, continuum eigensolutions. These eigenvectors are shown to form a complete basis set for the expansion of arbitrary 2-component vectors defined on the half-range. In addition, all of the necessary adjoint functions have been developed so that all

expansion coefficients can be obtained by taking scalar products. As an example of the method, the Milne problem is solved and explicit results are obtained for the 2-components of the polarized radiation field at any optical depth in the stellar medium.

<sup>1</sup> S. Chandrasekhar, *Radiative Transfer* (Dover Publications, Inc., New York, 1960).

<sup>2</sup> K. M. Case, *Ann. Phys. (N. Y.)* 9, 1 (1960).