

R. D. M. Garcia and C. E. Siewert, A Generalized Spherical Harmonics Solution for Radiative Transfer Models that Include Polarization Effects. *JQSRT* **36**, 401 (1986).

We wish to draw the reader's attention to the paragraph reproduced below, which replaces a similar one that appeared on p. 409.

For $|\xi_j| > 1$ we let $n = \max\{2, m\}$, write

$$\mathbf{T}_{l+1}^m(\xi_j) = \mathbf{R}_l^m(\xi_j)\mathbf{T}_l^m(\xi_j) \quad (64)$$

for $l = n, n+1, \dots, M$ and define

$$\mathbf{R}_M^m(\xi_j) = \mathbf{0}. \quad (65)$$

We can now multiply Eq. (23) by $\mathbf{M}(\xi_j)$ and use Eq. (64) to obtain

$$\mathbf{R}_{l-1}^m(\xi_j) = [\xi_j \mathbf{h}_l + \mathbf{V}_l^m - \mathbf{U}_{l+1}^m \mathbf{R}_l^m(\xi_j)]^{-1} \mathbf{U}_l^m \quad (66)$$

for $l = M, M-1, \dots, n+1$. It is apparent that Eqs. (65) and (66) define the matrices $\mathbf{R}_l^m(\xi_j)$ for $l = n, n+1, \dots, M$, and so we require the starting values $\mathbf{T}_0^0(\xi_j)$, $\mathbf{T}_1^0(\xi_j)$ and $\mathbf{T}_2^0(\xi_j)$, for the case $m = 0$, $\mathbf{T}_1^1(\xi_j)$ and $\mathbf{T}_2^1(\xi_j)$, for the case $m = 1$, and $\mathbf{T}_m^m(\xi_j)$ for all $m \geq 2$, to use Eq. (64). We see from Eqs. (23), (35) and (64) that

$$\mathbf{U}_{n+1}^m \mathbf{T}_{n+1}^m(\xi_j) = (\xi_j \mathbf{h}_n + \mathbf{V}_n^m) \mathbf{T}_n^m(\xi_j) - \mathbf{U}_n^m \mathbf{T}_{n-1}^m(\xi_j) \quad (67)$$

and

$$\mathbf{T}_{n+1}^m(\xi_j) = \mathbf{R}_n^m(\xi_j) \mathbf{T}_n^m(\xi_j). \quad (68)$$

Thus we let

$$\mathbf{X}_n^m(\xi_j) = [\mathbf{U}_{n+1}^m \mathbf{R}_n^m(\xi_j) - \xi_j \mathbf{h}_n - \mathbf{V}_n^m] \mathbf{G}_n^m(\xi_j) + \mathbf{U}_n^m \mathbf{G}_{n-1}^m(\xi_j) \quad (69)$$

and eliminate between Eqs. (67) and (68) to find

$$\mathbf{X}_n^m(\xi_j) \mathbf{M}(\xi_j) = \mathbf{0}. \quad (70)$$

For real values of ξ_j we now use **DSVDC** to compute an SVD of $\mathbf{X}_n^m(\xi_j)$, and when the rank is (numerically) clearly three we use the appropriate singular vector as $\mathbf{M}(\xi_j)$. With $\mathbf{M}(\xi_j)$, the starting values of the **G** polynomials and Eq. (35) we can now compute the required starting values $\mathbf{T}_0^0(\xi_j)$, $\mathbf{T}_1^0(\xi_j)$ and $\mathbf{T}_2^0(\xi_j)$, for the case $m = 0$, $\mathbf{T}_1^1(\xi_j)$ and $\mathbf{T}_2^1(\xi_j)$, for the case $m = 1$, and $\mathbf{T}_m^m(\xi_j)$ for all $m \geq 2$. For complex values of ξ_j , we use **DSVDC** to solve

$$\begin{bmatrix} \Re \mathbf{X}_n^m(\xi_j) & -\Im \mathbf{X}_n^m(\xi_j) \\ \Im \mathbf{X}_n^m(\xi_j) & \Re \mathbf{X}_n^m(\xi_j) \end{bmatrix} \begin{bmatrix} \Re \mathbf{M}(\xi_j) \\ \Im \mathbf{M}(\xi_j) \end{bmatrix} = \mathbf{0}, \quad (71)$$

or as an alternative procedure we can use the subroutine **ZSVDC** to find a null vector of $\mathbf{X}_n^m(\xi_j)$. Finally the remaining $\mathbf{T}_l^m(\xi_j)$ can be found from Eq. (64).