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Polarization and angle dependence for hyper-Rayleigh scattering from local and nonlocal modes of isotropic fluids: erratum

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This erratum gives corrections for the errors in a previously published paper [J. Opt. Soc. Am. B 17, 2032 (2000)].

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Equations (10)–(13) of Ref. [1] for transverse mode hyper-Rayleigh scattering (HRS) are incorrect due to an error in Eq. (8) for one of the basis vectors. The correct transverse mode HRS expressions were derived and given as Eqs. (A4)–(A7) in the Appendix of Ref. [2]. Corrected Eqs. (7) and (8) for the basis vectors and Eqs. (10)–(13) for the transverse mode HRS intensities are given below.

$$\hat{\mathbf{Q}}_{T1} = \frac{\lambda_X \hat{\mathbf{Y}} + (1-\lambda_Y)\hat{\mathbf{X}}}{[(1-\lambda_Y)^2 + \lambda_X^2]^{1/2}}, \tag{7}$$

$$\hat{\mathbf{Q}}_{T2} = \frac{(1-\lambda_Y)\lambda_Z \hat{\mathbf{Y}} - \lambda_X \lambda_Z \hat{\mathbf{X}} + [(1-\lambda_Y)^2 + \lambda_X^2]\hat{\mathbf{Z}}}{[(1-\lambda_Y)^2 + \lambda_X^2]^{1/2}[2(1-\lambda_Y)]^{1/2}}, \tag{8}$$

$$I_{VV}/A_T = \frac{\sin^2\theta \sin^2\psi}{1+\cos^2\psi - 2\cos\theta\cos\psi} + \frac{[(\cos\psi - \cos\theta)\sin^2\psi + R\cos\psi(1+\cos^2\psi - 2\cos\theta\cos\psi)]^2}{2(1-\cos\theta\cos\psi)(1+\cos^2\psi - 2\cos\theta\cos\psi)}, \tag{10}$$

$$I_{HV}/A_T = \frac{[1+(R-1)(1-\cos\theta\cos\psi)]^2 \sin^2\theta\sin^2\psi}{1+\cos^2\psi - 2\cos\theta\cos\psi} + \frac{[(\cos\psi - \cos\theta + (R-1)\sin^2\theta\cos\psi)\sin^2\psi + \cos\psi(1+\cos^2\psi - 2\cos\theta\cos\psi)]^2}{2(1-\cos\theta\cos\psi)(1+\cos^2\psi - 2\cos\theta\cos\psi)}, \tag{11}$$

$$I_{VH}/A_T = \frac{[\cos\psi - \cos\theta]^2}{1+\cos^2\psi - 2\cos\theta\cos\psi} + \frac{\sin^2\theta\sin^2\psi}{2(1-\cos\theta\cos\psi)(1+\cos^2\psi - 2\cos\theta\cos\psi)}, \tag{12}$$

$$I_{HH}/A_T = \frac{[\cos\psi - \cos\theta - (R-1)\cos\theta(1-\cos\theta\cos\psi)]^2}{1+\cos^2\psi - 2\cos\theta\cos\psi} + \frac{[1+(R-1)\cos\theta\cos\psi]^2\sin^2\theta\sin^2\psi}{2(1-\cos\theta\cos\psi)(1+\cos^2\psi - 2\cos\theta\cos\psi)}. \tag{13}$$

REFERENCES

1. D. P. Shelton, "Polarization and angle dependence for hyper-Rayleigh scattering from local and nonlocal modes of isotropic fluids," J. Opt. Soc. Am. B **17**, 2032–2036 (2000).
2. D. P. Shelton, "Nonlocal hyper-Rayleigh scattering from liquid nitrobenzene," J. Chem. Phys. **132**, 154506 (2010).