Erratum: Speckle fluctuations resolve the interdistance between incoherent point sources in complex media [Phys. Rev. A 91, 023807 (2015)]

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In our recent paper there was a missing term in Eq. (A17) in the Appendix and, as a consequence, missing terms in Eqs. (19) and (20) in the main text. After fixing these two equations, the speckle contrast given in Eq. (21) is also redefined for consistency. The discussions and the conclusions in the paper are not affected by these changes.

I. CORRECTIONS IN EQS. (A17), (19), AND (20)

The correct expression (A17) should read as

$$\langle \overline{I_\alpha(\mathbf{u})}\,\overline{I_{\alpha'}(\mathbf{u}')}\rangle = \frac{N^2}{4N^2-1}\frac{\langle \overline{P}^2\rangle}{(4\pi)^2}\left\{1-\frac{\delta_{\mathbf{u}\mathbf{u}'}\delta_{\alpha\alpha'}}{2N}\right\} + \frac{N^2}{4N^2-1}\frac{\langle \overline{P^2}\rangle}{(4\pi)^2}\left\{\delta_{\mathbf{u}\mathbf{u}'}\delta_{\alpha\alpha'}-\frac{1}{2N}\right\} - \frac{N^2}{4N^2-1}\frac{\left[\langle \overline{P}^2\rangle - \langle \overline{P_1}^2\rangle - \langle \overline{P_2}^2\rangle\right]}{(4\pi)^2}\left\{\delta_{\mathbf{u}\mathbf{u}'}\delta_{\alpha\alpha'}-\frac{1}{2N}\right\}, \tag{A17}$$

where $P_1 = [\mu_0\omega^3/(16\pi)]\mathbf{p}_1^\dagger \mathrm{Im}\,\mathbf{G}(11)\mathbf{p}_1 = [\pi\omega^2/(4\epsilon_0)]|p_1|^2\rho_{11}$ and similarly for P_2. The last term with

$$\langle \overline{P}^2\rangle - \langle \overline{P_1}^2\rangle - \langle \overline{P_2}^2\rangle = \frac{\pi^2\omega^4}{8\epsilon_0^2}|p_1|^2|p_2|^2\langle\rho_{11}\rho_{22}\rangle$$

was missing in Eq. (A17) in the initial paper. In the large N limit (and assuming $|p_1| = |p_2| = |p|$), it leads to

$$\langle \overline{I(\mathbf{u}_\alpha)}\,\overline{I(\mathbf{u}'_{\alpha'})}\rangle = \frac{\langle \overline{P}^2\rangle}{(8\pi)^2} + \frac{\langle \overline{P^2}\rangle}{(8\pi)^2}\delta_{\mathbf{u}\mathbf{u}'}\delta_{\alpha\alpha'} - \left(\frac{\omega^4}{8^3\epsilon_0^2}\right)|p|^4\langle\rho_{11}\rho_{22}\rangle\delta_{\mathbf{u}\mathbf{u}'}\delta_{\alpha\alpha'}, \tag{19}$$

where the last term was missing in the original Eq. (19). Analogously, Eq. (20) should read as

$$\langle \overline{I_\alpha(\mathbf{u})I_{\alpha'}(\mathbf{u}')}\rangle - \langle \overline{I_\alpha(\mathbf{u})}\,\overline{I_{\alpha'}(\mathbf{u}')}\rangle = \left(\frac{\omega^4}{8^3\epsilon_0^2}\right)|p|^4\left\{\langle\rho_{12}^2\rangle + \langle\rho_{11}\rho_{22}\rangle\delta_{\alpha\alpha'}\delta_{\mathbf{u}\mathbf{u}'}\right\}. \tag{20}$$

Note that the comments and conclusions following Eq. (20) in the published paper are not affected by these corrections.

II. REDEFINITION OF THE SPECKLE CONTRAST

The definition of the speckle contrast in Eq. (21) must also be corrected to be consistent with the new Eqs. (19) and (20). Actually, the speckle contrast $\sigma_S(\mathbf{u})$ measured in a single speckle spot involves the measurement of the two orthogonal polarization channels $\alpha = \pm$ such that

$$\sigma_S \equiv \frac{\langle \overline{I_+(\mathbf{u})I_-(\mathbf{u})}\rangle - \langle \overline{I_+(\mathbf{u})}\,\overline{I_-(\mathbf{u})}\rangle}{\langle \overline{I_+(\mathbf{u})}\rangle\langle \overline{I_-(\mathbf{u})}\rangle}. \tag{21}$$

With this correction in Eq. (21), all discussions and conclusions in the published paper remain unchanged.

