Errata: Reanalysis of turbulence effects on short-exposure passive imaging

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This article [Opt. Eng. 50(1), 016001 (2011)] was originally published on 6 January 2011 with errors in Eqs. (51) to (57). They are corrected below.

The approximation written in Eq. (51) should have included an $\omega^2$ dependence inside the exponential:

$$M_T(Q, X, \omega) \approx \exp\left\{+\frac{2.1}{5/3}N(Q, X) \omega^2\right\}.$$  (51)

The expression for $A$ in Eq. (54) should have been written using the limits

$$A = \begin{cases} 0.840 + 0.116\Sigma(q_a), & q_a = 1.35(q + 1.50); q > -1.50; \\ 0.840 + 0.280\Sigma(q_c), & q_c = 0.51(q + 1.50); q \leq -1.50. \end{cases}$$  (54)

The negative sign in Eq. (56) should have been inside the exponent:

$$R_X = 2\pi\omega_0^2 \int_0^1 \omega M_X(\omega)d\omega.$$  (57)

$$M_S(\omega) = M_0(\omega)M_{SA}(Q, X, \omega) = M_0(\omega)\exp\left\{-\left(\frac{2.1X\omega}{5/3}\right)\left[1 - V(Q, X)\omega^{1/3}\right]\right\}.$$  (56)

A factor of $2\pi$ was missing from Eq. (57):

Enhanced responses ($V > 1$) often appear for $Q > 1$ and $\omega \approx 1/3$. 

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