Oliveira and Rand Reply: In our Letter [1], we adopted the customary context of classical single scattering interactions in which the scattered field makes a negligible contribution to the total field. This preserves the planarity of the incident field throughout the medium despite the presence of weak induced currents [2]. The preceding Comment [3] points out that for (implicitly) very strong interactions between a plane wave and charges in an optical medium, not considered in our work, dramatic changes to the incident fields can take place. For example, an incident pump wave can be significantly depleted at electronic resonances in dielectrics or in conductive media with high densities of free charges. However, far from resonances in insulators or in conductive media with very low densities of free charges, negligible depletion takes place and the pump wave passes essentially unaltered through the medium, accompanied by very weak scattered radiation. For this reason, we made the substitution $(\nabla \times \mathbf{E})/i\omega\mu$ for $\mathbf{H}$ in our Letter with the stipulation that the medium be uniform and transparent. Presuming that a mechanism exists to generate the largest solenoidal displacement current consistent with charge conservation, our integration procedure then correctly identifies the maximum magnetic current density as $J_M = -\frac{1}{2}J_E$.

By applying boundary conditions [2], the same result is known to apply to perfectly conducting spheres which strongly alter the input field and produce strong scattering. Consequently, although strictly speaking the integration procedure in our Letter applies only to transparent solids, the value determined for the maximum magnetic dipole current is evidently more general than the constraint of transparency would suggest. Regardless of the method chosen to justify the result, the argument determining the upper limit for magnetic displacement current to be $J_M = -\frac{1}{2}J_E$ is certainly valid for homogeneous dielectrics in the Rayleigh limit and is applicable to our experiments since the samples were indeed transparent throughout the visible and near infrared regions. Furthermore, this result has a simple physical meaning, namely, that of all the charges displaced by an electric field $\mathbf{E}$, at most half can veer solenoidally about the $\mathbf{B}$ field to generate positive magnetic current by passing through a surface at the origin orthogonal to $\mathbf{E}$. Hence, the maximum ratio of magnetic to electric dipole radiation in a uniform medium, as determined in our Letter, is given by $(J_M/J_E)^2 = 1/4$, a result in quantitative agreement with all scattering measurements we have made to date at moderate intensities ($I \approx 10^{10}\ \mathrm{W/cm^2}$) in carbon tetrachloride, water, and benzene. The nonlinear origin of the intense magnetic currents observed in our experiments and the means by which they contribute radiation that is first order in the vector potential will be presented in a forthcoming paper.

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