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# Angular Average of Time-Harmonic Transport Solutions

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## Abstract

We consider the angular averaging of solutions to time-harmonic transport equations. Such quantities model measurements obtained for instance in optical tomography, a medical imaging technique, with frequency-modulated sources. Frequency modulated sources are useful to separate ballistic photons from photons that undergo scattering with the underlying medium. This paper presents a precise asymptotic description of the angularly averaged transport solutions as the modulation frequency  $\omega$  tends to  $\infty$ .

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