1093-35-211 **Shari Moskow*** (moskow@math.drexel.edu), 3141 Chestnut St, Philadelphia, PA 19104, and **Fioralba Cakoni**. *Asymptotic Expansions for Transmission Eigenvalues for Media with Small Inhomogeneities.*

We consider the transmission eigenvalue problem for an inhomogeneous medium containing a finite number of diametrically small inhomogeneities of different refractive index. We prove a convergence result for the transmission eigenvalues and eigenvectors corresponding to media with small homogeneities as the diameter of small inhomogeneities goes to zero. In addition we derive rigorously a formula for the perturbations in the real transmission eigenvalues caused by the presence of these small inhomogeneities. (Received August 14, 2013)