

Choose one of the following papers and give a presentation at the class.

## References

- [1] H. Ammari, E. Iakovleva, and S. Moskow, Recovery of small inhomogeneities from the scattering amplitude at a fixed frequency, *SIAM J. Math. Anal.*, 34 (2003), 882-900.
- [2] H. Ammari, M.S. Vogelius, and D. Volkov, Asymptotic formulas for perturbations in the electromagnetic fields due to the presence of imperfections of small diameter II. The full Maxwell equations, *J. Math. Pures Appl.* 80 (2001), 769-814.
- [3] G. Bal, Optical tomography of small volume absorbing inclusions, *Inverse Problems*, 19 (2003), 371-386.
- [4] E. Beretta and E. Francini, Asymptotic formulas for perturbations in the electromagnetic fields due to the presence of thin inhomogeneities, to appear in *Cont. Math.* (2003).
- [5] E. Beretta, E. Francini, and M.S. Vogelius, Asymptotic formulas for steady state voltage potentials in the presence of thin inhomogeneities. A rigorous error analysis, submitted.
- [6] D. Colton and A. Kirsch, A simple method for solving inverse scattering problems in the resonance region, *Inverse Problems*, 12 (1996), 383-393.
- [7] T.D. Mast, A. Nachman, and R.C. Waag, Focusing and imaging using eigenfunctions of the scattering operator, *J. Acoust. Soc. Am.* 102 (1997), 715-725.
- [8] V.A. Markel and J.C. Schotland, Inverse problem in optical diffusion tomography. I. Fourier-Laplace inversion formulas, *J. Acoust. Soc. Am. A*, Vol. 18, No. 6 (2001), 1336-1347.
- [9] V.A. Markel and J.C. Schotland, Inverse problem in optical diffusion tomography. II. Role of boundary conditions, *J. Acoust. Soc. Am. A*, Vol. 19, No. 3 (2002), 558-566.
- [10] S.R. Arridge and J.C. Hebden, Optical imaging in medicine: II. Modelling and reconstruction, *Phy. Med. Biol.* 42 (1997) 841-853.