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Thanh Trung Nguyen* (thanh@iastate.edu), 452 Carver Hall, 411 Morrill Road, Ames, IA 50011. *Recursive optimization algorithms for inverse scattering problems using multi-frequency data.*

In this talk we discuss a recursive optimization algorithm for solving inverse scattering problems in frequency domain. The method consist of two steps: in the first step, a rough estimate of the parameter of interest is obtained using data at a low frequency. In the second step, the estimate is refined recursively using data at higher frequencies. We will discuss the convergence of this method and show some numerical examples to demonstrate its performance. (Received September 12, 2016)