

Meeting: 999, Nashville, Tennessee, SS 9A, Special Session on Inverse Problems

999-65-29 **Charles W. Groetsch*** (groetsch@uc.edu), Department of Mathematical Sciences, P.O. Box 210025, University of Cincinnati, Cincinnati, OH 45221-0025. *An iterative stabilization method.* Preliminary report.

We investigate a stable iterative approximate evaluation method for closed unbounded operators such as those that occur frequently in inverse problems. The method is quite simple and is based on functional interpolation. Convergence results as well as order of approximation results are proved for both *a priori* and *a posteriori* schemes for choosing the stopping index of the iteration on the basis of the error level in the data. (Received July 09, 2004)