983-41-749 **Ingrid Daubechies*** (ingrid@math.princeton.edu), Princeton University, Princeton, NJ 08544, **Michel Defrise**, Brussels, Belgium, and **Christine De Mol**, Brussels, Belgium. *An iterative algorithm for ill-posed inverse problems where the object has a sparse wavelet expansion.*

Many approaches exist to compute the (approximate) inverse of K to recover an approximation to f from a dataset representing Kf corrupted by noise. Several approaches have been proposed that are adapted to the special case where f has a sparse wavelet expansion. We propose an iterative approach, similar to the Landweber algorithm; we prove it converges in norm and is stable. (Received September 23, 2002)