

# SOME PROPERTIES OF ITERATIVE RECONSTRUCTION ALGORITHMS

Tommy Elfving

Department of Mathematics, Linköping University,  
SE- 581 83 Linköping, Sweden.

The Landweber iteration is often used in signal and image processing. In its classical form it is a simultaneous method. However it can also be generalized to block-iteration, including a purely sequential version. We will discuss the relation between the generalized Landweber method and iterations used in image reconstruction such as ART, Cimmino and the recently proposed DROP method. We will also consider, in the framework of generalized Landweber iteration, the following issues.

- Convergence both for consistent and inconsistent data.
- Rate of convergence and acceleration.
- Semi-convergence behavior and stopping criteria.