

How to solve a linear inverse problem?

The classical approach  
ISTA, WLP, NW1, IRL1

Disadvantage: The weight design of these algorithms needs to be improved.

The proposed method (ERIWSTA)

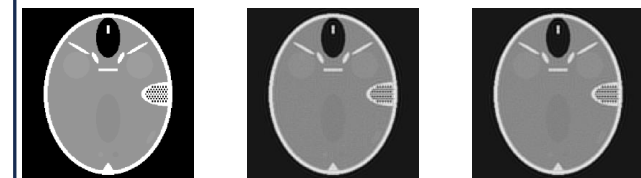
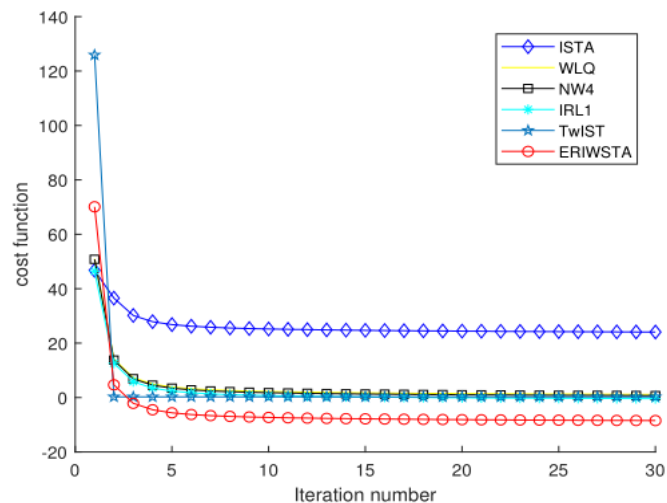
$$\min \Phi_{\beta, \gamma}(x, w) = F(x) + \beta G_{\gamma}(x, w)$$

$$s.t. \quad \omega_i \geq 0, \sum_{i=1}^n w_i = 1$$

$$\text{Where } F(X) = \frac{1}{2} \|Ax - b\|_2^2$$

$$G_{\gamma}(x, w) = \sum_{i=1}^n w_i |x_i|$$

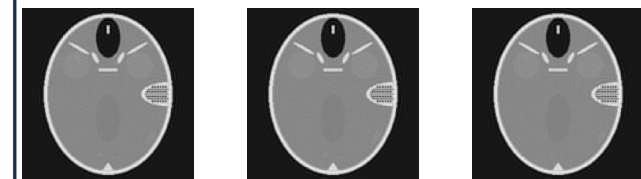
$$+ \gamma \sum_{i=1}^n w_i \ln w_i$$



(a)

(b)

(c)



(d)

(e)

(f)