

1163-65-1581

Mirjeta Pasha* (mpasha3@asu.edu), Arizona State University, Tempe, AZ 85280, and **Lothar Reichel** and **Alessandro Buccini**. *Krylov meets Bregman: Sparse image reconstruction with nonnegativity constraint.*

Bregman-type iterative methods have received considerable attention in recent years due to their ease of implementation and the high quality of the computed solutions they deliver. However, these iterative methods may require a large number of iterations and this reduces their usefulness. In this talk we will discuss a computationally attractive linearized Bregman algorithm by projecting the problem to be solved into an appropriately chosen low-dimensional Krylov subspace. The projection reduces the computational effort required for each iteration. A variant of this solution method, in which nonnegativity of each computed iterate is imposed, also is described. Extensive numerical examples illustrate the performance of the proposed methods. (Received September 15, 2020)