

A LINEAR ACCELERATION ROW ACTION METHOD FOR PROJECTING ONTO SUBSPACES*

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Abstract. This article describes an extension of projection or “row action” methods proposed first by Kaczmarz and by Cimmino. The method of this article constructs a line through two centroids computed by a modified Cimmino procedure and uses the actual or approximate intersection of this line with one of the hyperplanes associated with rows of the system matrix as an approximation to the solution. Comparisons are made with similar methods described by Pierra and Dax.

Key words. Linear systems, projection methods, row action methods, iterative methods, Kaczmarz, Cimmino, Pierra, Dax

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