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Non-monotoneous Parallel Iteration for Solving Convex Feasibility Problems.

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Abstract: The method of projections onto convex sets to find a point in the intersection of a finite number of closed convex sets in an Euclidean space, sometimes leads to slow convergence of the constructed sequence. Such slow convergence depends both on the choice of the starting point and on the monotoneous behaviour of the usual algorithms. As there is normally no indication of how to choose the starting point in order to avoid slow convergence, we present in this paper a non-monotoneous parallel algorithm that may eliminate considerably the influence of the starting point.

Keywords: inherently parallel methods; convex feasibility problems; projections onto convex sets; slow convergence;

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