

Sliding Alternating Direction Method of Multipliers

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Abstract: We present new sliding-type algorithms for solving affinely constrained optimization problems based on the alternating direction method of multipliers framework. We demonstrate that the convergence of these new sliding algorithms match existing lower complexity bounds for certain first-order oracles as well as improve upon the number of gradient evaluations required to obtain an ϵ -solution. Under a new, less restrictive oracle assumption, we provide a worst-case problem instance and show that our sliding algorithms attain the improved lower complexity bound. A numerical experiment on this proposed worst-case problem instance is provided to showcase the improvement.

Talk will take place from 1:00PM - 2:00PM through Zoom (invitation will be emailed to everyone soon).