Review: A Semi-Bregman Proximal Alternating Method for a Class of Nonconvex Problems: Local and Global Convergence Analysis

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In this section we discuss methods for solving the unconstrained optimization problem below:

$$\min_{x \in \mathbb{R}^n} f(x), \tag{1}$$

where $f : \mathbb{R}^n \to \mathbb{R}$ is a continuously differentiable (which implies dom f is open).

1 Line Search

References

[1] M. Teboule, E. Cohen, D. R. Luke, T. Pinta, and S. Sabach. A Semi-Bregman Proximal Alternating Method for a Class of Nonconvex Problems: Local and Global Convergence Analysis. Jonunal of Global Optimization, Springer, 89 (2024), 33–55.

[2] J. Bolte, S. Sabach, and M. Teboulle. Proximal alternating linearized minimization for nonconvex and nonsmooth problems. Math. Program., 146(1-2):459–494, 2014.

[3] J. Bolte, S. Sabach, M. Teboulle, and Y. Vasibourd. First Order Methods Beyond Convexity and Lipschitz Gradient Continuity with Applications to Quadratic Inverse Problems. SIAM J. Optim., 28(3);2131–2151, 2018