

Stiefel 流形上的梯度下降法

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Gradient Descent on the Stiefel Manifold

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摘要 基于Stiefel 流形上算法的几何框架, 本文提出了Stiefel流形上的梯度下降法. 理论上给出了算法收敛性定理. 三个数值仿真算例表明算法是有效的, 与其他方法相比具有更快的收敛速度.

关键词: [约束非线性优化问题](#) [梯度下降法](#) [Stiefel流形](#)

Abstract: This paper presents gradient descent on the Stiefel manifolds based on algorithmic geometrical framework on the Stiefel manifolds. Theoretically, convergence theorem of this algorithm is given. Three numerical simulations are shown to verify the efficiency of the proposed algorithm, and to have faster convergence rate compared with other methods.

Key words: [constrained nonlinear optimization problem](#) [gradient descent](#) [Stiefel manifold](#)

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