

截断策略下求解第一类积分方程离散的DSM方法

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THE DISCRETIZATION OF THE DSM METHODS FOR SOLVING THE ILL-POSED INTEGRAL EQUATION OF THE FIRST KIND BASED ON THE TRUNCATED STRATEGY

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摘要 本文用多尺度投影方法求解离散的DSM问题,与传统全投影方法相比,减少了内积计算个数,保持了最优收敛率.最后,算例说明了算法的有效性.

关键词: 病态积分方程 Tikhonov 正则化 动力系统方法 多尺度投影 后验参数选择

Abstract: In this paper, we develop a fast multiscale projection method to solve the discretization of the DSM problem. Compared with the traditional projection technique, we keep the optimal convergence rate, but less than the number of inner products calculation. Finally, numerical experiments are given to illustrate the efficiency of the method.

Key words: Ill-posed integral equations Tikhonov regularization multiscale projection method Dynamical systems methods A posteriori parameter choice strategy.

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