论文

# CONVERGENCE PROPERTIES OF CONJUGATE GRADIENT METHODS WITH STRONG WOLFE LINESEARCH

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收稿日期 修回日期 网络版发布日期 接受日期

摘要 In this paper, we investigate the convergence property of the conjugate gradient algorithms which depend on the search directions

 $d_1=-g_1$ ,  $d_{k+1}=-g_{k+1}+\beta_k$  d\_k,  $k\neq 1$ , by using different choices for the scalar  $\beta_k$ , where  $\beta_k$  is the gradient of f at x\_k. Under some assumptions which are slightly weaker than those in [1], we prove a global convergence result which allows  $\beta_k$  to be set in a wider range than that in [1].

关键词 <u>Conjugate gradient algorithms, global co</u> 分类号

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**Abstract** In this paper, we investigate the convergence property of the conjugate gradient algorithms which depend on the search directions  $d_1=-g_1$ ,  $d_{k+1}=-g_{k+1}+\beta_k d_k$ ,  $k \neq 1$ , by using different choices for the scalar  $\beta_k$ , where  $g_k$  is the gradient of f at  $x_k$ . Under some assumptions which are slightly weaker than those in [1], we prove a global convergence result which allows  $\beta_k$  to be set in a wider range than that in [1].

Key words Conjugate gradient algorithms global convergence unconstrained optimization

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