Ye, Jiaqing; Chen, Qianzhu; Hu, Haiping
Optimizing first-order methods for smooth convex minimization of gradient Q-linearly convergence. (Chinese. English summary) Zbl 07404506
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Summary: Inspired by the performance estimation problem (PEP) method, this paper optimizes the step size of the first-order method of smooth convex minimization such that the gradient corresponding to the iteration point satisfies Q-convergence by examining the worst case convergence boundary (i.e. efficiency) of the cost function. This paper introduces a new and effective first-order method called QGM, which has an effective computation form similar to the optimized gradient method (OGM).

MSC:
90C25 Convex programming

Keywords:
first-order methods; smooth convex minimization; gradient method

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