

PROPERTIES AND NUMERICAL RESULTS OF A PARALLEL ALGORITHM FOR GLOBAL OPTIMIZATION PROBLEMS

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The problem of finding a global minimum of a real function on a set $S \subseteq \mathbb{R}^n$ occurs in many real world problems [2], [3]. Since its computational complexity is exponential, its solution can be a very expensive computational task. In this paper, we introduce a parallel algorithm that exploits the latest computers in the market equipped with more than one processor, and can be used in a clusters of computers. The algorithm belongs to the improvement of local minima algorithm family, and carries on local minimum searches iteratively but trying not to find an already found local optimizer [1]. Numerical experiments have been carried out on two computers equipped with four and six processors; fourteen configurations of the computing resources have been investigated. To evaluate the algorithm performances the *speedup* and the *efficiency* are reported for each configuration.

References

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