

Sequential Covering Algorithm for Nondifferentiable Global Optimization Problem and Applications

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Abstract : In this paper, the one-dimensional unconstrained global optimization problem of continuous functions satisfying a Hölder condition is considered. We extend the algorithm of sequential covering SCA for Lipschitz functions to a large class of Hölder functions. The convergence of the method is studied and the algorithm can be applied to systems of nonlinear equations. Finally, some numerical examples are presented and illustrate the efficiency of the present approach.

Keywords : global optimization, Hölder functions, sequential covering method, systems of nonlinear equations

Conference Title : ICAMEM 2014 : International Conference on Applied Mathematics and Engineering Mathematics

Conference Location : Istanbul, Türkiye

Conference Dates : June 19-20, 2014