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A modification of the DIRECT method for Lipschitz global optimization for a symmetric function

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Abstract. In this paper, we consider a global optimization problem for a symmetric Lipschitz continuous function. An efficient modification of the well-known DIRECT (DIviding RECTangles) method called SymDIRECT is proposed for solving this problem. The method is illustrated and tested on several standard test functions. The application of this method to solving complex center-based clustering problems for the data having only one feature is particularly presented.