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A continuously differentiable filled function method for global optimization. (English)

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Summary: In this paper, a new filled function method for finding a global minimizer of global optimization is proposed. The proposed filled function is continuously differentiable and only contains one parameter. It has no parameter sensitive terms. As a result, a general classical local optimization method can be used to find a better minimizer of the proposed filled function with easy parameter adjustment. Numerical experiments show that the proposed filled function method is effective.

MSC:

65K05 Numerical mathematical programming methods
90C26 Nonconvex programming, global optimization

Keywords:

global optimization; filled function method; global minimizer; local minimizer; numerical experiment

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