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An interval version of Shubert's iterative method for the localization of the global maximum.
(English) [Zbl 0602.65040](#)
Computing 38, 275-280 (1987).

Using the "bisection rule" of *R. E. Moore* [Methods and applications of interval analysis. Philadelphia: SIAM (1979; [Zbl 0417.65022](#))], a simple algorithm is given which is an interval version of Shubert's iterative method [*B. O. Shubert*, *SIAM J. Numer. Anal.* 9, 379–388 (1972; [Zbl 0251.65052](#))] for seeking the global maximum of a function of a single variable defined on a closed interval $[a, b]$. The algorithm which is always convergent can be easily extended to the higher dimensional case. It seems much simpler than and produces results comparable to that proposed by Shubert and *P. Basso* [*SIAM J. Numer. Anal.* 19, 781–792 (1982; [Zbl 0483.65038](#))].

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MSC:

[65K05](#) Numerical mathematical programming methods
[90C30](#) Nonlinear programming
[65G30](#) Interval and finite arithmetic

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Keywords:

[interval analysis](#); [Shubert's iterative method](#); [global maximum](#)

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