

**Moré, J. J.**

**Recent developments in algorithms and software for trust region methods.** (English)

Zbl 0546.90077

Mathematical programming, 11th int. Symp., Bonn 1982, 258-287 (1983).

[For the entire collection see [Zbl 0533.00035](#).]

In a trust region method the iteration step is a solution to a subproblem with a bound on the step. The subproblem is chosen so that its solution, i.e. the iteration step must yield an improvement in the current approximation to the optimization problem. In this paper several forms of a trust region method, most of them with a quadratic cost function in the subproblem, are reviewed. The main attention of the paper is paid to scaling and preconditioning techniques as well as to algorithms for the computation of the trust region step and convergence results.

Reviewer: [R.Lepp](#)

**MSC:**

[90C30](#) Nonlinear programming

[49M37](#) Numerical methods based on nonlinear programming

[65K05](#) Numerical mathematical programming methods

Cited in **51** Documents

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[trust region method](#); [quadratic cost function](#); [scaling and preconditioning techniques](#); [convergence results](#)

**Software:**

[GQTPAR](#)