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Stochastic optimisation: Simulated annealing and the genetic algorithm. (English)

[Zbl 0833.65054](#)

Titterton, D. M. (ed.), Complex stochastic systems and engineering. Based on the proceedings of the IMA conference held at Leeds. UK, September 1993. Oxford: Clarendon Press, Inst. Math. Appl. Conf. Ser., New Ser. 54, 209-213 (1995).

Summary: There is much current interest in methods for optimising high-dimensional functions with multiple local optima. Such problems generally fall outside the domain of standard numerical methods and two stochastic optimisation techniques, simulated annealing and the genetic algorithm, have become fashionable choices. We outline these two methods and summarise results from empirical studies which casts doubt on the viability of the genetic algorithm.

For the entire collection see [\[Zbl 0827.00045\]](#).

MSC:

[65K05](#) Numerical mathematical programming methods

[90C15](#) Stochastic programming

[90C27](#) Combinatorial optimization

Keywords:

[multiple local optima](#); [stochastic optimisation](#); [simulated annealing](#); [genetic algorithm](#)