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**Security scheduling of grid tasks based on a discrete particle swarm algorithm.** (Chinese. English summary) [Zbl 1240.68035](#)

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Summary: For the lack of safety studies in task scheduling in heterogeneous grid environments, a security benefit function is constructed taking into consideration performance requirements such as confidentiality, integrity, authenticity, etc. A dynamic method to evaluate the credibility of nodes and a new discrete particle swarm optimization algorithm are proposed. Experiments and comparisons with the particle swarm optimization algorithm in continuous space and a genetic algorithm show that the proposed algorithm has a faster convergence speed, a shorter scheduling length, and a higher safety performance.

**MSC:**

**68M20** Performance evaluation, queueing, and scheduling in the context of computer systems

**90C59** Approximation methods and heuristics in mathematical programming

**Keywords:**

grid computing; task scheduling; security model; discrete particle swarm algorithm