

A novel particle swarm optimization - Based algorithm for the optimal communication spanning tree problem

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Abstract: In this paper, we propose a novel approach for the optimal communication spanning tree (OCST) problem. Our algorithm is based on the Particle Swarm Optimization (PSO) technique and take account into node biased encoding (NBE) scheme to find nearly optimal solution. The new algorithm can achieve a result that is better than known heuristic algorithms do, as verified by a set of public benchmark problem instances. © 2010 IEEE.

Author Keywords: Node biased encoding; Optimal communication spanning tree; Particle Swarm Optimization

Index Keywords: Benchmark-problem instances; Optimal communication; Optimal communication spanning tree; Optimal solutions; Particle swarm; Particle swarm optimization technique; Spanning tree; Spanning tree problems; Computer software; Encoding (symbols); Heuristic algorithms; Parallel architectures; Particle swarm optimization (PSO); Trees (mathematics); Communication

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