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A particle swarm optimisation for vehicle routing problem with time windows. (English)

[Zbl 1175.90093](#)

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Summary: A heuristic based on Particle Swarm Optimisation (PSO) algorithm for solving VRPTW, which is an extension of PSO application for the Capacitated Vehicle Routing Problem (CVRP), is presented in this paper. A computational experiment is carried out by running the proposed algorithm with the VRPTW benchmark data set of *M. M. Solomon* [*Oper. Res.* 35, 254–262 (1987; [Zbl 0625.90047](#))]. The results show that the proposed algorithm is able to provide VRPTW solutions that are very close to its optimal solutions for problems with 25 and 50 customers within reasonably short of computational time.

MSC:

[90B20](#) Traffic problems in operations research

[90C59](#) Approximation methods and heuristics in mathematical programming

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PSO; particle swarm optimisation; VRPTW; vehicle routing problem; time windows; heuristics

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