

Intelligent ATM replenishment optimization based on hybrid genetic algorithm

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Abstract—To solve the ATM replenishment optimization problem, we conducted in-depth research and analysis on it, established a counterfeit model, and proposed an improved algorithm to solve it. Combine the global search capability of Genetic Algorithm(GA), the excellent convergence capability of Particle Swarm Optimization (PSO) and the local search capability of Simulated Annealing to propose an improved hybrid algorithm frame. Combine the actual production case of a bank's ATM replenishment planning to verify the effectiveness of the algorithm, the experimental results show that the proposed algorithm is effective in solving ATM replenishment optimization problem, and the proposed mathematical model is useful for the analysis of ATM replenishment optimization problem.

Keyword—ATM replenishment optimization, ATM replenishment modeling, genetic algorithm, improved genetic particle swarm optimization algorithm



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