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"Metaheurísticas para o Problema do Caixeiro Viajante com Coleta de Prêmios"

The Prize-Collecting Traveling Salesman Problem (PCTSP) is a generalization of Traveling Salesman Problem. In PCTSP, we have to determine a tour visiting each vertex in the graph at most one time. If a given vertex is selected then an associated prize is collected, if a vertex is unrouted a penalty must be paid. We want to minimize an objective function balancing between the travel cost and the total penalties in a such way that a sufficiently large prize is collected. In this work we present an hybrid metaheuristic that combines Greedy Randomized Adaptive Search Procedure (GRASP) and Variable Neighborhood Search (VNS) procedure to solve a generalized version of the Prize-Collecting Traveling Salesman Problem.