

# Computational Behavior of a Genetic Algorithm to Approximately Solve the Set Covering Problem

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## 概要

A Genetic Algorithm to solve the set covering Problem has been proposed by K.Iwamura, T.Sibahara, M.Fushimi and H.Morohoshi[12, 13]. In their algorithm, they have made some improvements in getting some better feasible solutions, i.e. better chromosomes at the first starting population, taking full account of Domain Specific Knowledge with sound programming skill. Here, we have further investigated input data dependency of the Genetic Algorithm, i.e., dependency on density. Their densities vary from 3% down to 0.2%. In these experiments, we have seen that our Genetic Algorithm is practically efficient for the set covering Problem input data with 2500 rows and 2500 columns with so higher density more than or equal to 0.5% that simplex algorithm takes much time to solve the linear programming problem derived from the set covering prob-

lem.

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