

Gange, G.; Stuckey, P. J.; Lagoon, V.

Fast set bounds propagation using a BDD-SAT hybrid. (English) Zbl 1210.68100

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Summary: Binary Decision Diagram (BDD) based set bounds propagation is a powerful approach to solving set-constraint satisfaction problems. However, prior BDD based techniques incur the significant overhead of constructing and manipulating graphs during search. We present a set-constraint solver which combines BDD-based set-bounds propagators with the learning abilities of a modern SAT solver. Together with a number of improvements beyond the basic algorithm, this solver is highly competitive with existing propagation based set constraint solvers.

MSC:

68T20 Problem solving in the context of artificial intelligence (heuristics, search strategies, etc.) Cited in 2 Documents

Keywords:

Binary Decision Diagram; SAT solver

Software:

MiniSat; Chaff; Cardinal

Full Text: [DOI](#)