

SAT – digital tomography

Standard description (r, c, a, b)

Solver: Cadical195

Encoding	# variables	# clauses	Build time (s)	Solve time (s)
seqcounter	24208	47083	0.3207	9.3721
totalizer	84402	125715	0.4066	60.5126
cardnetw	69235	102969	0.5509	51.9776

Solver: Glucose3

Encoding	# variables	# clauses	Build time (s)	Solve time (s)
seqcounter	24208	47083	0.2085	11.1521
totalizer	84402	125715	0.5909	260.3778
cardnetw	69235	102969	0.5104	128.9558

Simplified description (r, c)

Solver: Cadical195

Encoding	# variables	# clauses	Build time (s)	Solve time (s)
seqcounter	14833	28195	0.1342	0.0636
totalizer	42497	62676	0.5075	0.1921
cardnetw	36704	53987	0.2882	0.1101

Solver: Glucose3

Encoding	# variables	# clauses	Build time (s)	Solve time (s)
seqcounter	14833	28195	0.1308	0.0491
totalizer	42497	62676	0.3811	0.1720
cardnetw	36704	53987	0.2401	0.5784

Slope diagonals description for $k = 2$ (r, c, a_k, b_k)

Solver: Cadical195

Encoding	# variables	# clauses	Build time (s)	Solve time (s)
seqcounter	27092	52816	0.2423	1.9755
totalizer	81395	121167	0.3809	12.3476
cardnetw	69359	103117	0.4602	2.6142

Solver: Glucose3

Encoding	# variables	# clauses	Build time (s)	Solve time (s)
seqcounter	27092	52816	0.1335	9.3706
totalizer	81395	121167	0.5029	79.9042
cardnetw	69359	103117	0.3355	76.5507

Slope diagonals description for $k = 3$ (r, c, a_k, b_k)

Solver: Cadical195

Encoding	# variables	# clauses	Build time (s)	Solve time (s)
seqcounter	28290	55182	0.2750	20.9996
totalizer	81551	121370	0.4982	41.7746
cardnetw	70145	104263	0.5616	7.0388

Solver: Glucose3

Encoding	# variables	# clauses	Build time (s)	Solve time (s)
seqcounter	28290	55182	0.1802	45.3362
totalizer	81551	121370	0.6935	16.4252
cardnetw	70145	104263	0.4220	118.2779

Slope diagonals description for $k = 5$ (r, c, a_k, b_k)

Solver: Cadical195

Encoding	# variables	# clauses	Build time (s)	Solve time (s)
seqcounter	29318	57222	0.4052	21.3617
totalizer	80662	120010	0.4720	23.7610
cardnetwcommander	69992	104008	0.8123	8.9769

Solver: Glucose3

Encoding	# variables	# clauses	Build time (s)	Solve time (s)
seqcounter	29318	57222	0.4718	6.9953
totalizer	80662	120010	0.4796	63.1955
cardnetwcommander	69992	104008	0.5794	29.0085

Slope diagonals description for $k = 10$ (r, c, a_k, b_k)

Solver: Cadical195

Encoding	# variables	# clauses	Build time (s)	Solve time (s)
seqcounter	29415	57387	0.2413	5.0791
totalizer	81051	120580	0.5849	42.9697
cardnetwcommander	70070	104111	0.4553	29.2280

Solver: Glucose3

Encoding	# variables	# clauses	Build time (s)	Solve time (s)
seqcounter	29415	57397	0.3049	4.9174
totalizer	81051	120580	0.6224	38.7022
cardnetwcommander	70070	104111	0.4258	18.6661

Combined diagonals for $k = 2$ (r, c, a, b, a_k, b_k)

Ran for too long. Probably because of too many clauses ???