This represents a short update to "Solving Linear Pseudo-Boolean Constraint Problems with Local Search", by J.P. Walser, Proceedings AAAI-97, AAAI Press/The MIT Press.

Appendix: Experimental Results on Radar Surveillance

This paragraph reports on improved experimental results for radar surveillance. CPLEX was run with standard parameter settings but using a 'diving' primal heuristic and limiting runtime to 12h (thanks to Thomas Kasper for pointing out this strategy). WSAT ($\mathcal{PB}$) was run with a slightly modifed variable selection heuristic (only allow for choosing variables that will improve the score of the selected clause), and additional tabu aspiration based on the total score.

size	n	m	spread	%sig	LP lb	oc*	WSAT ($\mathcal{PB}$)			CPLEX	
							best	fast	time/s	best	time/s
100:22	434	606	even	100	0	0	opt	0.0	0.1	opt	1.0
200:44	933	1273	even	100	1	1	opt	1.0	4.0	opt	25.96
900:200	4616	6203	even	100	2	2	opt	2.0	23.6	opt	1654.8
2100:467	10975	14644	even	100	3	3	opt	3.0	43.9	7	12h
100:22	410	581	even	98	1	1	opt	1.0	1.0	opt	1.0
200:44	905	1246	even	98	2	2	opt	2.0	3.5	opt	25.5
900:200	4623	6174	even	98	4	4	opt	5.0	26.1	opt	2376.8
2100:467	10989	14595	even	98	11.5	12	opt	14.6	55.8	13	12h
100:22	371	518	uneven	100	3	3	opt	3.0	0.8	opt	0.5
200:44	772	1065	uneven	100	0	0	opt	0.0	0.1	opt	16.9
900:200	4446	5699	uneven	100	5	5	opt	5.0	21.7	opt	2916.7
2100:467	10771	14002	uneven	100	8.1	9	10	10.7	48.4	33	12h

Table 1: Experimental comparison on radar surveillance problems: Columns are problem size in number of cells and stations (stations have a maximal reach of $d_{max} = 4$), encoding size in number of variables n and clauses m, spread of stations on the map, percentage of significant cells, and LP lower bound for over-coverage. 'Fast' measures best over-coverage found in 30K, 100K, 300K, and 500K flips respectively (averaged over 20 runs), 'time' gives average time needed. 'Best' measures best over-coverage found within all 20 runs. oc* gives optimal over-coverage (integer). CPLEX columns are: Best overcoverage found within 12h and runtime. CPLEX was run with standard parameter settings but using a 'diving' heuristic. All runtimes measured on a SPARCstation 20.