

Constraints (pairs) - Optimal, Noisy

#	G	% Obs	O	G*	$\delta_{HC}(P, S)$					$\delta_{HC}(P, S)$					$\delta_{HC}(L, S)$					$\delta_{HC}(L, S)$					$\delta_{HC}(L, P)$					$\delta_{HC}(L, P)$				
					Time	AR	FPR	FNR	Acc	S	Time	AR	FPR	FNR	Acc	S	Time	AR	FPR	FNR	Acc	S	Time	AR	FPR	FNR	Acc	S	Time	AR	FPR	FNR	Acc	S
BLOCKS (950)	20.3	10	1.25	8.0	14.745	0.43	0.27	0.3	86.1	8.08	9.789	0.43	0.27	0.3	86.1	8.11	4.831	0.44	0.28	0.28	88.9	8.58	5.831	0.44	0.28	0.28	88.9	8.58	4.735	0.4	0.28	0.32	83.3	7.28
		30	3.08	3.97	10.515	0.42	0.23	0.35	75.0	3.61	7.603	0.41	0.37	0.22	88.9	7.67	4.65	0.39	0.26	0.35	75.0	3.64	4.505	0.39	0.39	0.22	86.1	7.67	4.729	0.38	0.27	0.35	69.4	3.11
		50	4.42	2.5	9.831	0.49	0.29	0.23	72.2	3.11	6.383	0.35	0.53	0.11	91.7	8.67	4.647	0.43	0.38	0.19	77.8	3.75	4.514	0.34	0.57	0.09	94.4	9.5	4.739	0.44	0.34	0.21	69.4	3.39
		70	6.67	1.94	9.974	0.76	0.15	0.09	91.7	2.17	6.383	0.51	0.43	0.06	94.4	5.36	4.64	0.68	0.22	0.1	88.9	2.31	4.552	0.48	0.45	0.07	94.4	5.36	4.73	0.69	0.23	0.08	86.1	2.53
		100	8.83	1.83	9.884	0.69	0.15	0.16	83.3	1.75	6.394	0.65	0.31	0.04	100.0	4.25	4.644	0.64	0.2	0.16	83.3	1.92	4.482	0.65	0.31	0.04	100.0	4.25	4.73	0.86	0.11	0.03	91.7	2.42
IPC-GRID (1248)	7.5	10	1.63	2.71	12.088	0.63	0.15	0.22	75.0	2.65	8.007	0.64	0.18	0.18	81.3	3.06	7.57	0.82	0.09	0.09	91.7	2.75	5.071	0.8	0.11	0.09	91.7	2.94	7.817	0.84	0.13	0.03	95.8	3.17
		30	4.0	1.21	10.625	0.7	0.16	0.14	85.4	1.38	7.021	0.66	0.27	0.07	91.7	2.5	7.566	0.84	0.09	0.07	91.7	1.25	5.016	0.83	0.12	0.05	93.8	1.35	5.939	0.91	0.09	0.0	100.0	1.42
		50	6.19	1.13	8.94	0.81	0.08	0.11	87.5	1.25	5.957	0.74	0.19	0.07	91.7	2.0	7.589	0.88	0.09	0.03	97.9	1.4	5.034	0.88	0.1	0.02	97.9	1.44	5.99	0.88	0.08	0.04	95.8	1.35
		70	8.69	1.04	8.015	0.94	0.03	0.03	95.8	1.08	5.354	0.81	0.18	0.01	100.0	1.69	7.631	0.94	0.05	0.01	97.9	1.17	4.986	0.92	0.07	0.01	97.9	1.21	5.943	0.96	0.03	0.01	97.9	1.08
		100	11.88	1.0	7.99	1.0	0.0	0.0	100.0	1.0	5.267	0.95	0.05	0.0	100.0	1.38	7.672	0.97	0.03	0.0	100.0	1.06	4.995	0.97	0.03	0.0	100.0	1.06	5.891	0.97	0.03	0.0	100.0	1.06
LOGISTICS (950)	10.0	10	2.0	2.83	13.621	0.61	0.25	0.14	86.1	3.33	8.901	0.61	0.25	0.14	86.1	3.33	10.189	0.75	0.23	0.02	97.2	4.39	6.947	0.74	0.24	0.02	97.2	4.5	9.044	0.71	0.25	0.04	94.4	4.39
		30	5.75	1.19	13.533	0.6	0.37	0.03	91.7	2.33	8.918	0.5	0.5	0.0	100.0	4.08	9.015	0.81	0.19	0.0	100.0	1.89	6.01	0.65	0.35	0.0	100.0	2.81	8.968	0.74	0.26	0.01	97.2	1.97
		50	9.42	1.06	13.569	0.78	0.2	0.02	94.4	1.56	8.908	0.67	0.33	0.0	100.0	2.39	8.976	0.89	0.1	0.01	97.2	1.31	5.965	0.83	0.17	0.0	100.0	1.64	8.992	0.78	0.19	0.04	91.7	1.42
		70	13.25	1.03	12.367	0.94	0.06	0.0	100.0	1.14	8.461	0.86	0.14	0.0	100.0	1.5	9.023	0.97	0.03	0.0	100.0	1.08	5.987	0.89	0.11	0.0	100.0	1.33	9.028	0.94	0.06	0.0	100.0	1.14
		100	18.17	1.0	11.31	0.96	0.04	0.0	100.0	1.08	7.409	0.96	0.04	0.0	100.0	1.08	8.938	1.0	0.0	0.0	100.0	1.0	5.963	0.96	0.04	0.0	100.0	1.08	8.967	0.96	0.04	0.0	100.0	1.08
MICRONIC (950)	6.0	10	2.0	2.53	8.609	0.69	0.31	0.0	100.0	4.08	5.649	0.69	0.31	0.0	100.0	4.08	8.552	0.77	0.15	0.08	91.7	2.81	5.623	0.77	0.15	0.08	91.7	2.81	8.543	0.74	0.25	0.01	97.2	3.56
		30	5.42	1.22	8.557	0.51	0.49	0.0	100.0	2.83	5.633	0.31	0.69	0.0	100.0	4.69	8.541	0.74	0.19	0.07	88.9	1.58	5.598	0.67	0.33	0.0	100.0	2.58	8.559	0.62	0.34	0.04	94.4	2.08
		50	8.42	1.06	8.64	0.69	0.31	0.0	100.0	1.81	5.605	0.31	0.69	0.0	100.0	4.56	8.55	0.88	0.1	0.03	94.4	1.19	5.612	0.59	0.41	0.0	100.0	2.39	8.509	0.79	0.19	0.01	97.2	1.47
		70	11.92	1.0	8.566	0.8	0.2	0.0	100.0	1.47	5.706	0.35	0.65	0.0	100.0	3.94	8.502	0.88	0.09	0.03	94.4	1.14	5.619	0.61	0.37	0.01	97.2	2.11	8.57	0.85	0.13	0.01	97.2	1.28
		100	16.33	1.0	8.515	1.0	0.0	0.0	100.0	1.0	5.665	0.43	0.57	0.0	100.0	3.42	8.564	0.88	0.13	0.0	100.0	1.25	5.586	0.75	0.25	0.0	100.0	2.08	8.513	0.88	0.13	0.0	100.0	1.25
ROVERS (950)	6.0	10	1.67	2.28	9.338	0.51	0.4	0.09	86.1	4.08	6.024	0.5	0.44	0.07	91.7	4.5	9.255	0.63	0.24	0.13	83.3	2.97	9.284	0.67	0.27	0.15	75.0	2.92	6.205	0.57	0.27	0.15	75.0	2.92
		30	3.67	1.31	9.289	0.6	0.37	0.03	94.4	2.58	6.113	0.33	0.66	0.01	97.2	4.64	9.257	0.71	0.21	0.08	80.6	1.69	6.202	0.7	0.23	0.07	83.3	1.81	9.309	0.7	0.25	0.05	88.9	1.92
		50	5.75	1.19	9.309	0.77	0.2	0.03	94.4	1.69	6.144	0.45	0.54	0.01	97.2	3.61	9.23	0.73	0.14	0.13	77.8	1.28	6.172	0.72	0.2	0.08	86.1	1.67	8.182	0.83	0.11	0.06	91.7	1.42
		70	8.17	1.0	9.347	0.82	0.16	0.02	94.4	1.36	6.113	0.54	0.46	0.0	100.0	3.08	9.279	0.8	0.13	0.07	80.6	1.08	6.196	0.77	0.22	0.01	97.2	1.5	7.705	0.81	0.16	0.03	94.4	1.31
		100	10.83	1.0	9.363	0.94	0.06	0.0	100.0	1.25	6.277	0.75	0.25	0.0	100.0	1.83	9.263	0.96	0.04	0.0	100.0	1.14	6.093	0.9	0.1	0.0	100.0	1.25	7.703	1.0	0.0	0.0	100.0	1.0
SOMBRAN (950)	8.7	10	2.33	2.11	14.825	0.29	0.31	0.4	38.9	2.08	10.015	0.28	0.41	0.31	50.0	3.47	11.364	0.35	0.38	0.27	52.8	2.78	7.059	0.33	0.47	0.2	69.4	4.03	6.293	0.26	0.51	0.22	55.6	4.08
		30	6.5	1.25	14.579	0.46	0.32	0.22	61.1	1.64	9.984	0.47	0.51	0.03	94.4	3.92	9.385	0.61	0.23	0.16	75.0	1.53	6.25	0.47	0.48	0.05	91.7	3.25	6.159	0.33	0.48	0.19	58.3	2.33
		50	10.33	1.22	14.406	0.51	0.34	0.15	72.2	2.69	9.809	0.35	0.62	0.03	94.4	5.67	9.357	0.61	0.3	0.09	88.9	2.72	6.182	0.42	0.55	0.03	94.4	4.97	6.205	0.36	0.39	0.25	58.3	1.78
		70	14.67	1.03	14.387	0.56	0.36	0.08	86.1	3.47	9.779	0.46	0.54	0.0	100.0	4.89	7.67	0.65	0.31	0.04	94.4	3.44	6.235	0.5	0.5	0.0	100.0	4.56	6.209	0.42	0.37	0.2	58.3	1.47
		100	20.17	1.0	14.415	0.64	0.28	0.08	83.3	2.58	9.93	0.49	0.51	0.0	100.0	4.17	6.073	0.77	0.19	0.04	91.7	2.5	4.386	0.64	0.36	0.0	100.0	3.75	6.099	0.63	0.25	0.13	75.0	1.25
Average					10.972	0.69	0.22	0.1	87.85	2.34	7.307	0.55	0.4	0.06	94.56	3.92	8.014	0.75	0.17	0.08	89.58	2.22	5.585	0.67	0.27	0.05	94.56	3.21	7.203	0.71	0.21	0.08	87.15	2.2

Table 1: Results for each pair of constraint sets, for optimal observations. L for Landmarks, P for Post-hoc, and S for State equation.

Constraints (pairs) - Suboptimal, Noisy

#	G	% Obs	O	G*	$\delta_{HC}(P, S)$					$\delta_{HC}(P, S)$					$\delta_{HC}(L, S)$					$\delta_{HC}(L, S)$					$\delta_{HC}(L, P)$					$\delta_{HC}(L, P)$				
					Time	AR	FPR	FNR	Acc	S	Time	AR	FPR	FNR	Acc	S	Time	AR	FPR	FNR	Acc	S	Time	AR	FPR	FNR	Acc	S	Time	AR	FPR	FNR	Acc	S
BLOCKS (950)	20.3	10	1.42	7.61	14.774	0.4	0.29	0.31	77.8	8.08	9.82	0.4	0.32	0.28	80.6	8.86	4.654	0.42	0.32	0.26	83.3	9.11	5.835	0.42	0.32	0.26	83.3	9.28	4.731	0.34	0.32	0.34	83.3	7.81
		30	3.83	3.58	10.425	0.38	0.27	0.35	63.9	3.17	7.728	0.34	0.47	0.19	91.7	9.28	4.645	0.4	0.3	0.3	75.0	4.31	4.516	0.31	0.5	0.19	94.4	9.64	4.73	0.36	0.33	0.3	69.4	3.94
		50	5.92	3.19	9.915	0.49	0.23	0.28	80.6	3.11	6.384	0.3	0.6	0.1	100.0	9.36	4.646	0.47	0.28	0.24	86.1	4.71	4.534	0.27	0.61	0.13	94.4	9.69	4.731	0.52	0.23	0.78	72.8	2.69
		70	8.5	2.53	9.946	0.51	0.19	0.29	69.4	2.12	6.383	0.34	0.59	0.07	100.0	9.14	4.646	0.48	0.25	0.27	72.2	2.33	4.524	0.32	0.62	0.07	100.0	9.5	4.721	0.54	0.22	0.24	77.8	2.39
		100	11.83	2.25	9.708	0.66	0.17	0.17	91.7	2.08	6.381	0.58	0.29	0.13	100.0	3.67	4.647	0.58	0.17	0.25	71.02	1.27	4.551	0.58	0.29	0.13	100.0	3.67	4.72	0.65	0.17	0.18	83.3	1.92
THE GRAND (1250)	7.5	10	2.06	1.58	12.012	0.52	0.3	0.19	70.8	2.1	8.101	0.48	0.4	0.12	79.2	3.23	7.517	0.62	0.25	0.13	85.4	2.27	5.141	0.59	0.31	0.11	89.6	3.0	7.823	0.69	0.28	0.02	95.8	2.75
		30	5.56	1.4	10.683	0.69	0.14	0.17	81.3	1.29	7.122	0.63	0.33	0.03	100.0	3.15	7.592	0.81	0.12	0.07	100.0	1.4	5.016	0.73	0.23	0.05	100.0	2.04	5.965	0.86	0.09	0.05	100.0	1.33
		50	8.88	1.35	9.87	0.76	0.12	0.12	91.7	1.27	6.033	0.63	0.36	0.0	20.0	2.19	7.531	0.79	0.11	0.07	100.0	1.17	5.04	0.75	0.21	0.03	100.0	1.73	5.978	0.85	0.09	0.06	97.9	1.25
		70	12.56	1.31	7.952	0.85	0.06	0.09	93.8	1.08	5.396	0.6	0.34	0.06	20.0	2.6	7.609	0.87	0.05	0.08	100.0	1.1	5.064	0.75	0.19	0.06	100.0	1.44	5.992	0.86	0.06	0.08	97.9	1.13
		100	17.25	1.5	8.056	0.88	0.03	0.09	93.8	1.0	5.339	0.7	0.24	0.06	100.0	1.63	7.598	0.88	0.06	0.06	100.0	1.13	5.067	0.74	0.12	0.06	100.0	1.5	6.01	0.91	0.03	0.06	100.0	1.06
LOGISTICS (950)	10.0	10	2.67	2.0	13.481	0.69	0.26	0.05	91.7	3.06	8.902	0.67	0.28	0.04	94.4	3.33	10.127	0.75	0.25	0.0	100.0	3.58	6.992	0.7	0.3	0.0	100.0	4.14	9.033	0.73	0.25	0.03	97.2	3.39
		30	7.5	1.14	10.359	0.72	0.25	0.03	91.7	1.69	8.983	0.61	0.39	0.0	100.0	3.0	8.982	0.81	0.17	0.02	97.2	1.5	5.93	0.64	0.36	0.0	100.0	3.39	9.004	0.8	0.2	0.0	100.0	1.64
		50	11.92	1.06	10.355	0.8	0.19	0.01	97.2	1.44	8.91	0.64	0.36	0.0	100.0	2.64	9.025	0.83	0.17	0.0	100.0	1.47	5.995	0.63	0.37	0.0	100.0	2.83	9.063	0.84	0.16	0.0	100.0	1.42
		70	16.67	1.03	12.373	0.93	0.07	0.01	100.0	1.19	8.33	0.79	0.21	0.0	100.0	1.67	9.056	0.94	0.06	0.0	100.0	1.17	5.933	0.81	0.19	0.0	100.0	1.58	9.02	0.97	0.03	0.0	100.0	1.11
		100	23.17	1.0	11.374	0.96	0.04	0.0	100.0	1.08	7.583	0.88	0.13	0.0	100.0	1.25	8.94	1.0	0.0	0.0	100.0	1.0	5.972	0.9	0.1	0.0	100.0	1.25	8.961	0.9	0.0	0.0	100.0	1.0
MONIC (950)	6.0	10	3.0	1.83	8.541	0.48	0.52	0.0	100.0	4.36	5.648	0.42	0.58	0.0	100.0	5.11	8.54	0.69	0.28	0.03	91.7	2.83	5.667	0.65	0.33	0.02	94.4	3.28	8.588	0.61	0.36	0.03	94.4	3.25
		30	7.67	1.25	8.594	0.5	0.48	0.01	97.2	2.86	5.566	0.25	0.75	0.0	100.0	5.56	8.633	0.69	0.22	0.09	88.9	1.58	5.541	0.43	0.55	0.01	100.0	3.78	8.585	0.61	0.27	0.12	83.3	1.67
		50	12.25	1.03	8.623	0.78	0.22	0.0	100.0	1.61	5.667	0.22	0.78	0.0	100.0	5.31	8.613	0.79	0.13	0.07	86.1	1.17	5.636	0.5	0.5	0.0	100.0	3.14	8.519	0.74	0.19	0.08	86.1	1.31
		70	17.33	1.0	8.572	0.75	0.23	0.01	97.2	1.53	5.646	0.22	0.78	0.0	100.0	5.14	8.53	0.81	0.13	0.06	88.9	1.19	5.669	0.37	0.63	0.0	100.0	3.5	8.513	0.81	0.14	0.05	88.9	1.25
		100	24.0	1.0	8.657	0.96	0.04	0.0	100.0	1.08	5.655	0.45	0.55	0.0	100.0	3.67	8.472	0.92	0.04	0.04	90.0	1.0	5.729	0.57	0.43	0.0	100.0	2.83	8.307	0.92	0.04	0.04	91.7	1.0
RAVERS (950)	6.0	10	1.83	2.39	9.629	0.57	0.39	0.04	94.4	4.44	6.153	0.53	0.43	0.04	94.4	4.69	9.242	0.73	0.18	0.09	80.6	3.0	6.129	0.74	0.18	0.08	83.3	3.03	9.13	0.72	0.23	0.05	94.4	3.33
		30	4.5	1.39	9.365	0.65	0.3	0.06	88.9	2.19	6.191	0.37	0.63	0.0	100.0	4.83	9.254	0.82	0.09	0.08	83.3	1.39	6.069	0.66	0.27	0.07	86.1	2.28	9.238	0.75	0.16	0.09	88.9	1.64
		50	7.17	1.11	9.319	0.67	0.28	0.04	88.9	1.81	6.089	0.32	0.68	0.0	100.0	4.58	9.281	0.72	0.18	0.11	77.8	1.28	6.0	0.61	0.33	0.06	86.1	2.06	8.165	0.78	0.17	0.05	91.7	1.42
		70	10.0	1.06	9.313	0.82	0.18	0.0	100.0	1.58	6.104	0.4	0.6	0.0	100.0	3.97	9.19	0.81	0.13	0.06	86.1	1.22	6.106	0.64	0.35	0.01	97.2	2.33	7.693	0.9	0.1	0.10	100.0	1.36
		100	13.67	1.0	9.333	1.0	0.0	0.0	100.0	1.0	6.153	0.72	0.28	0.0	100.0	2.17	9.248	0.88	0.08	0.04	91.7	1.08	6.106	0.83	0.17	0.0	100.0	1.58	7.707	1.0	0.0	0.0	100.0	1.0
SOMAN (950)	8.7	10	3.33	1.83	14.91	0.36	0.28	0.36	41.7	1.69	10.932	0.35	0.39	0.26	61.1	3.33	11.23	0.41	0.29	0.3	52.8	1.92	6.925	0.35	0.45	0.2	69.4	3.67	6.222	0.24	0.51	0.25	50.0	2.39
		30	8.67	1.28	14.561	0.54	0.26	0.19	69.4	2.14	9.088	0.35	0.64	0.01	97.2	5.58	9.341	0.64	0.21	0.15	80.6	2.14	6.22	0.4	0.59	0.02	97.2	5.19	6.227	0.32	0.46	0.23	61.1	2.22
		50	13.75	1.33	14.553	0.56	0.22	0.22	63.9	1.89	9.903	0.37	0.56	0.07	86.1	4.72	9.34	0.54	0.27	0.10	75.0	2.08	6.278	0.38	0.56	0.06	88.9	4.69	6.185	0.37	0.36	0.27	52.8	1.67
		70	19.33	1.36	14.546	0.46	0.41	0.14	86.1	4.0	9.862	0.26	0.71	0.03	94.4	6.5	7.6	0.5	0.38	0.12	88.9	4.0	5.99	0.27	0.66	0.07	94.4	6.0	6.244	0.43	0.32	0.25	63.9	1.64
		100	27.0	1.33	14.518	0.47	0.45	0.08	83.3	4.67	9.923	0.3	0.65	0.04	91.7	6.17	6.072	0.47	0.45	0.08	91.7	4.67	4.386	0.33	0.63	0.04	91.7	5.67	5.869	0.71	0.1	0.19	75.0	2.08
Average					10.987	0.66	0.23	0.11	86.94	2.36	7.993	0.72	0.47	0.48	95.09	4.57																		