Note on performance

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This is a note on the performance of paper "**Repairing Inconsistent Curve Networks on Non-parallel Cross-sections**" published at Eurographics 2018. We report more details on the performance tables, in order to make a clearer comparison of our method and Gurobi solver. Notice that besides the size of problem (e.g. number of variables), the complexity of the problem in our settings (e.g. the number of regions that need to be fixed, number of labels) will also influence the performance of the solver significantly.

Table 1 In this table, we report the performance of our method on 6 complex real examples running on a reduced set of vertices. To make a better comparison, we further report the performance of Gurobi as the last column.

	# Planes (Labels)	# Total vertices	$\|I\|$	λ	Pre-proc time	Initial time	Update time	Gurobi time
Atrium	5 (2)	5740	109	0.01	0.6398	0.0258	0.448619	13.784
Ferret Brain	10 (2)	13131	300	0.01	3.1514	0.703	62.945	-
Liver (Fig 8)	5 (4)	8222	95	0.1	10.943	0.5324	13.4681	-
Liver (Fig 9)	6 (4)	20799	125	0.005	60.7131	0.628	29.1373	-
Mouse Brain	6 (7)	14159	168	0.025	127.661	2.394	291.436	-

Table 1: Data size and running time for the examples in Figures 6, 7, 8, 9, 10, showing the number of planes, number of labels, total number of vertices in the triangulations, number of vertices in the reduced intersection set I, λ value, and timing (in seconds) for each of the three stages of our method, and the running time on Gurobi solver ('-' indicates the solver fails to return within 2 hours).

Table 2 In this table, we compare the performance of our method with Gurobi solver on a subset of k planes from the ferret brain data (Figure 7). However, we didn't clarify whether we are running on the reduced set of vertices or the original set of vertices on intersection lines (see Sec 5 for details). To make a more clear comparison, we further report the time performance for both our method and Gurobi running on the reduced set (column 5, 6, 7) and the original set (column 8, 9, 10). We combine them into the same

k	Initialization energy	Final energy	Gurobi energy	$\|I\|$	Our time	Gurobi time	$\|I\|$	Our time	Gurobi time
2	16.97	16.65	16.65	16	0.274	0.135	61	0.826	1.05
3	26.49	24.95	24.95	32	0.354	0.421	121	1.253	11.28
4	26.46	25.02	25.03	47	0.531	0.719	181	3.024	33.16
5	36.14	29.55	29.55	93	1.471	25.26	430	33.218	619.91
6	53.03	46.74	46.74	181	9.923	1011.8	951	342.426	-

Table 2: Comparing our optimization method and the MIP solver in Gurobi on a subset of k planes in the ferret brain data, in terms of minimal energy and time (in seconds). Column 5, 6, 7 show the time on reduced set, and column 8, 9, 10 show the time on original set on intersection lines. (Blue numbers are reported in the paper.)

table since we found that for both solvers, they reach the same minima on cases we test.