

timings

Refinement step	Pole figure	# of measurments	Experimental time (seconds)		
			Direct	Christ.	Christ. 2-opt
	0 {110}	54	472.93	472.93	458.81
	0 {100}	54	472.93	472.93	458.81
	0 {211}	54	472.93	472.93	458.81
	0 {321}	54	472.93	472.93	458.81
	1 {110}	46	479.13	361.48	345.34
	1 {100}	37	458.66	358.89	329.11
	1 {211}	69	632.37	575.93	537.66
	1 {321}	75	646.07	616.86	583.4
	2 {110}	243	1743.02	1525.62	1473.39
	2 {100}	154	1306.72	1045.03	988.84
	2 {211}	374	2563.36	2314.63	2242.88
	2 {321}	407	2601.13	2507.77	2436.49
	3 {110}	778	5017.18	4367.06	4253.52
	3 {100}	592	4297.13	3390.15	3304.89
	3 {211}	1178	7319.41	6593.88	6415.3
	3 {321}	1342	7939.01	7490.48	7281.96
	4 {110}	2821	16313.42	14783.94	14650.25
	4 {100}	3013	18167.65	15859.09	15716.52
	4 {211}	3480	20552.21	18343.46	18180.94
	4 {321}	4365	24782.65	22956.04	22790.74
	Total	19190	116710.84	104982.03	103366.47
	Total (hours)	19190	32.42	29.16	28.71

timings

		Computation time (seconds)						
Linkern	LKH	Direct	Christ.	Christ. 2-opt	Linkern	LKH		
458.81	458.81	0.03	0.01	0.02	0.12	0.13		
458.81	458.81	0.01	0.01	0.02	0.06	0.13		
458.81	458.81	0.01	0.02	0.02	0.06	0.14		
458.81	458.81	0.01	0.02	0.02	0.06	0.13		
345.34	345.34	0.01	0.02	0.01	0.03	0.03		
321.9	321.9	0.01	0.02	0.01	0.03	0.03		
524.62	524.62	0.01	0.02	0.02	0.05	0.04		
566.38	566.38	0.01	0.02	0.02	0.06	0.05		
1457.11	1457.11	0.01	0.04	0.08	0.3	0.28		
989.66	976.39	0.01	0.03	0.04	0.52	1.69		
2223.12	2223.09	0.03	0.07	0.2	0.68	7.34		
2406.75	2406.06	0.03	0.09	0.23	0.46	1.02		
4235.89	4233.86	0.1	0.34	2.23	2.13	41.2		
3286.67	3285.45	0.06	0.19	0.97	1.67	38.49		
6393.6	6389.06	0.19	0.99	7.77	4.26	83.44		
7250.85	7250.78	0.22	1.26	13.18	3.74	140.05		
14624.75	14624.57	1.04	5.94	128.13	9.11	275.51		
15695.45	15689.46	1.23	9.93	139.65	11.93	272.06		
18149.37	18137.76	1.76	16.5	242.41	15.93	1377.69		
22740.37	22731.7	2.57	34.44	472.78	22	2897.2		
103047.07	102998.77	7.35	69.96	1007.81	73.2	5136.65		
28.62	28.61	0	0.02	0.28	0.02	1.43		

summary

Refinement step	Pole figure	# of measurments	Total (seconds)		
			Direct	Christ.	Christ. 2-opt
0 {110}		54	472.96	472.94	458.83
0 {100}		54	472.94	472.94	458.83
0 {211}		54	472.94	472.95	458.83
0 {321}		54	472.94	472.95	458.83
1 {110}		46	479.14	361.5	345.35
1 {100}		37	458.67	358.91	329.12
1 {211}		69	632.38	575.95	537.68
1 {321}		75	646.08	616.88	583.42
2 {110}		243	1743.03	1525.66	1473.47
2 {100}		154	1306.73	1045.06	988.88
2 {211}		374	2563.39	2314.7	2243.08
2 {321}		407	2601.16	2507.86	2436.72
3 {110}		778	5017.28	4367.4	4255.75
3 {100}		592	4297.19	3390.34	3305.86
3 {211}		1178	7319.6	6594.87	6423.07
3 {321}		1342	7939.23	7491.74	7295.14
4 {110}		2821	16314.46	14789.88	14778.38
4 {100}		3013	18168.88	15869.02	15856.17
4 {211}		3480	20553.97	18359.96	18423.35
4 {321}		4365	24785.22	22990.48	23263.52
Total		19190	116718.19	105051.99	104374.28
Total (hours)		19190	32.42	29.18	28.99
Savings (hours)			0	3.24	3.43

per pole figure (seconds)

all	{110}	3942	24026.87	21517.38	21311.78
all	{100}	3850	24704.41	21136.27	20938.86
all	{211}	5155	31542.28	28318.43	28086.01
all	{321}	6243	36444.63	34079.91	34037.63

per refinement step (seconds)

0 all		216	1891.78	1891.78	1835.32
1 all		227	2216.27	1913.24	1795.57
2 all		1178	8214.31	7393.28	7142.15
3 all		3890	24573.3	21844.35	21279.82
4 all		13679	79822.53	72009.34	72321.42

per pole figure (hours)

all	{110}	3942	6.67	5.98	5.92
all	{100}	3850	6.86	5.87	5.82
all	{211}	5155	8.76	7.87	7.8
all	{321}	6243	10.12	9.47	9.45

per refinement step (hours)

0 all		216	0.53	0.53	0.51
1 all		227	0.62	0.53	0.5
2 all		1178	2.28	2.05	1.98
3 all		3890	6.83	6.07	5.91
4 all		13679	22.17	20	20.09

summary

		% off to the best					
Linkern	LKH	Direct	Christ.	Christ. 2-opt	Linkern	LKH	
458.93	458.94	3.08	3.08	0	0.02	0.02	
458.87	458.94	3.08	3.08	0	0.01	0.02	
458.87	458.95	3.08	3.08	0	0.01	0.03	
458.87	458.94	3.08	3.08	0	0.01	0.02	
345.37	345.37	38.74	4.68	0	0.01	0.01	
321.93	321.93	42.48	11.49	2.23	0	0	
524.67	524.66	20.53	9.78	2.48	0	0	
566.44	566.43	14.06	8.91	3	0	0	
1457.41	1457.39	19.6	4.68	1.1	0	0	
990.18	978.08	33.6	6.85	1.1	1.24	0	
2223.8	2230.43	15.27	4.09	0.87	0	0.3	
2407.21	2407.08	8.06	4.19	1.23	0.01	0	
4238.02	4275.06	18.39	3.05	0.42	0	0.87	
3288.34	3323.94	30.68	3.1	0.53	0	1.08	
6397.86	6472.5	14.41	3.08	0.39	0	1.17	
7254.59	7390.83	9.44	3.27	0.56	0	1.88	
14633.86	14900.08	11.48	1.07	0.99	0	1.82	
15707.38	15961.52	15.67	1.03	0.95	0	1.62	
18165.3	19515.45	13.15	1.07	1.42	0	7.43	
22762.37	25628.9	8.89	1	2.2	0	12.59	
103120.27	108135.42	13.19	1.87	1.22	0	4.86	
28.64	30.04						
3.78	2.38						
21133.59	21436.84	13.69	1.82	0.84	0	1.43	
20766.7	21044.41	18.96	1.78	0.83	0	1.34	
27770.5	29201.99	13.58	1.97	1.14	0	5.15	
33449.48	36452.18	8.95	1.88	1.76	0	8.98	
1835.54	1835.77	3.08	3.08	0	0.01	0.02	
1758.41	1758.39	26.04	8.81	2.11	0	0	
7078.6	7072.98	16.14	4.53	0.98	0.08	0	
21178.81	21462.33	16.03	3.14	0.48	0	1.34	
71268.91	76005.95	12	1.04	1.48	0	6.65	
5.87	5.95						
5.77	5.85						
7.71	8.11						
9.29	10.13						
0.51	0.51						
0.49	0.49						
1.97	1.96						
5.88	5.96						
19.8	21.11						