A Current Numerical Results

The matlab codes have been polished up since the paper was submitted. Though the code is still just in matlab (no mex files), the times have improved dramatically. In addition, the SDPLIB test problems have been solved. This page contains the latest numerical results.

Dim Q n	cpu sec	major iter.	rel. opt. at end	rel. norm(ZX) at end	rel. viol. eig. pos. Z, X	nnz in Q
165	1120	14	869.61	8.9414e-17	-3.3566e-17	476
175	1891	15	928.97	8.5746e-17	-3.2607e-17	504
185	3079.6	15	1041.8	8.9598e-17	-3.7512e-17	538
195	3251.9	14	1045.7	8.2733e-17	-4.2463e-17	572
205	5874.7	17	1207.7	1.0142e-16	-3.5923e-17	602

Table A.1: Random problems; Requested Accuracy in relative duality gap: 1.0e-14; Density is $\frac{1}{n}$; crossover tolerance 1.0e-01; optimal values of order 1000; SUN computer.

Dim Q n	cpu sec to 1 dec	cpu sec to 7 dec	cpu sec to 14 dec	major iter.	rel. opt. at end	rel. norm(ZX) at end	rel. viol. eig. pos. Z, X	nnz in Q
100	39.66	127.23	192.36	13	226.16	2.5926e-17	-5.0771e-17	638
124	70.93	351.73	502.57	14	141.99	3.3609e-17	-2.8961e-16	410
124	71.15	241.03	342.4	14	269.88	4.4706e-17	-1.0508e-16	760
124	56.32	392.78	547.51	14	467.75	2.3752e-17	-3.3513e-17	1364
124	82.79	370.25	577.79	14	864.41	1.6515e-16	-8.7386e-16	2666
250	648.9	2339.9	3087.2	15	317.26	2.1095e-16	-4.7591e-15	892
250	537.79	2384	2805.6	14	531.93	2.8552e-16	-5.5422e-16	1472
250	620.82	3844.2	5620	13	981.17	2.7276e-17	-2.6909e-16	2816
250	947.5	7834.3	10893	15	1682	6.5743e-16	-2.2708e-15	5092
500	6729.4	32472	42094	20	598.15	2.9931e-17	-1.5378e-16	1701
500	5422.5	38232	59391	18	1070.1	7.2114e-16	-9.7197e-15	2939
500	7282.3	42758	58360	16	1848	1.2577e-15	-2.0375e-14	5210
500	11548	80822	1.3137e+05	17	3566.7	6.1352e-15	-5.7 509e-14	10740

Table A.2: Requested Accuracy in relative duality gap: 1.0e-14; SDPLIB test problems; crossover tolerance 1.0e-01; SUN computer.

Dim Q n	cpu sec	major iter.	rel. opt. at end	rel. norm(ZX) at end	rel. viol. eig. pos. Z, X	nnz in Q
100	96.34	12	226.16	1.2399e-13	-1.2062e-12	638
124	252.57	13	141.99	1.2238e-14	-2.3655e-13	410
124	171.99	13	269.88	2.0918e-11	-1.1324e-11	760
124	292.48	13	467.75	7.0013e-13	-5.9152e-13	1364
124	289.21	13	864.41	5.7229e-11	-1.035e-11	2666
250	1134.9	14	317.26	2.9025e-11	-5.5891e-11	892
250	1058.3	14	531.93	2.8552e-16	-5.5638e-16	1472
250	1633.6	12	981.17	8.9829e-12	-5.8956e-12	2816
250	3036	14	1682	3.481e-11	-2.1537e-11	5092
500	14669	19	598.15	4.12e-13	-2.9424e-12	1701
500	21489	17	1070.1	1.0229e-11	-2.7013e-11	2939
500	20691	15	1848	3.6924e-11	-1.364e-11	5210
500	46752	16	3566.7	3.3634e-11	-1.5e-11	10740

Table A.3: Requested Accuracy in relative duality gap: 1.0e-10; SDPLIB test problems; crossover tolerance 1.0e-01; SGI (Irix6.5_64-Mips) computer.