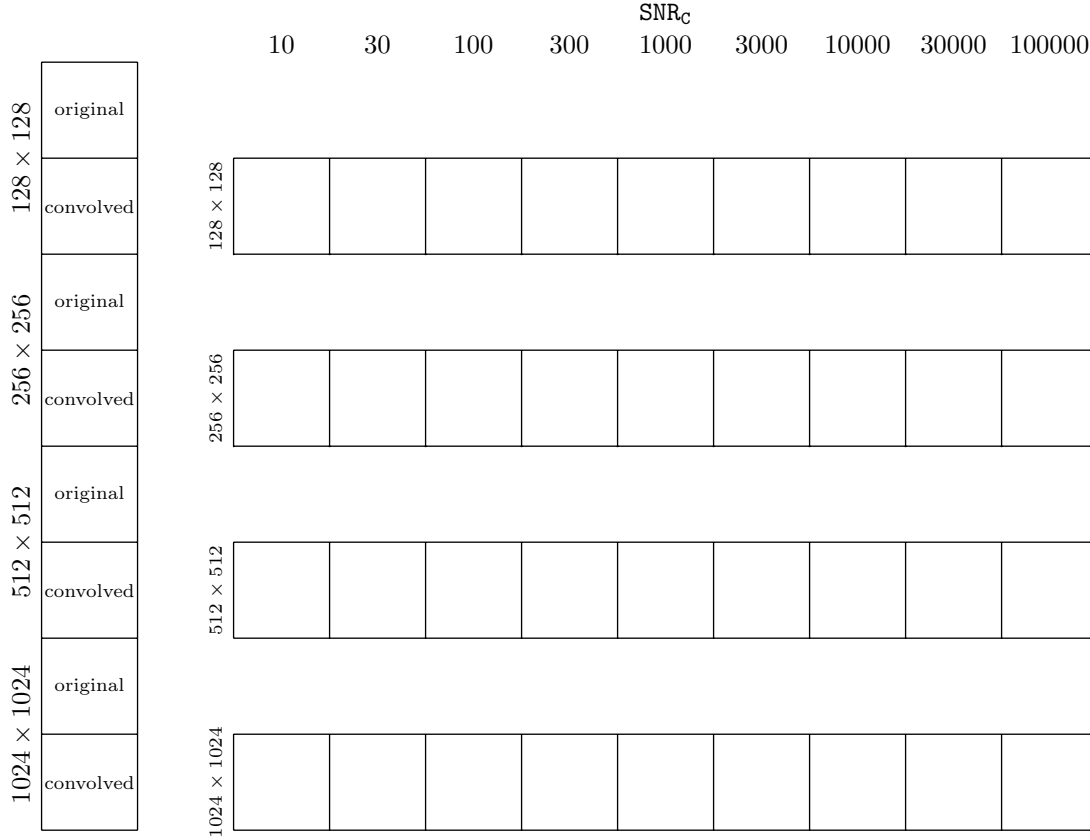


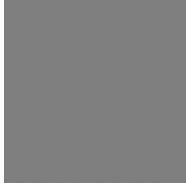
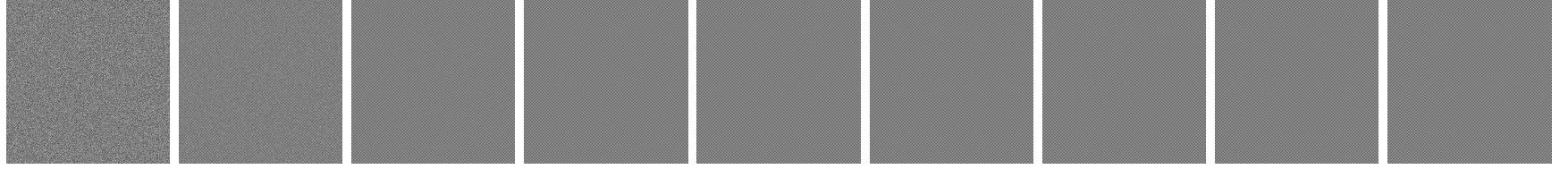
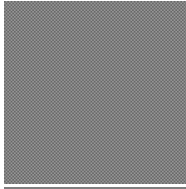
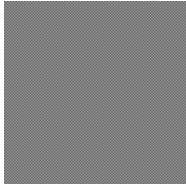
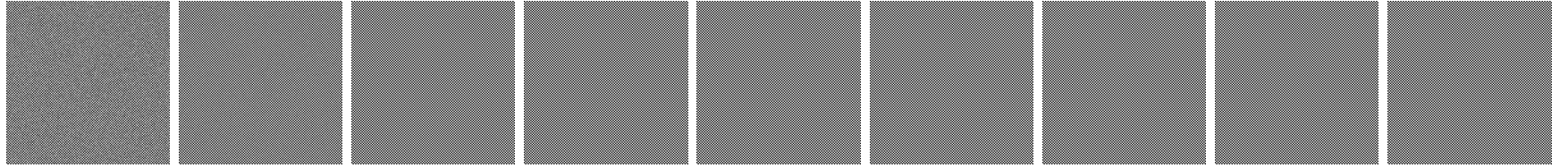
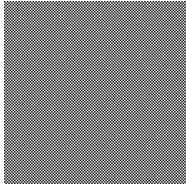
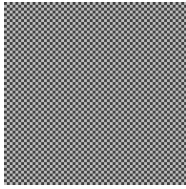
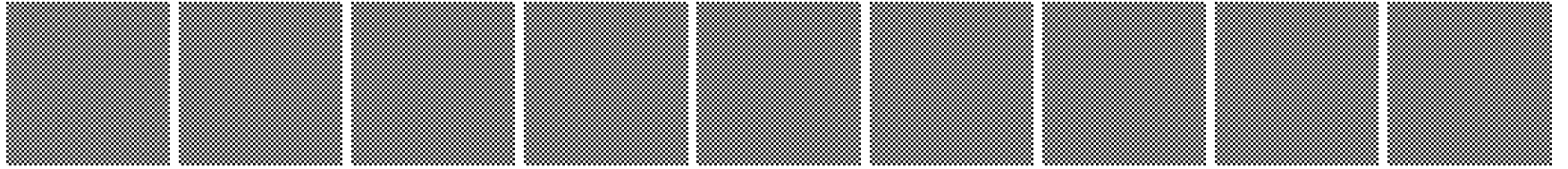
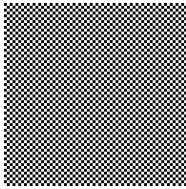
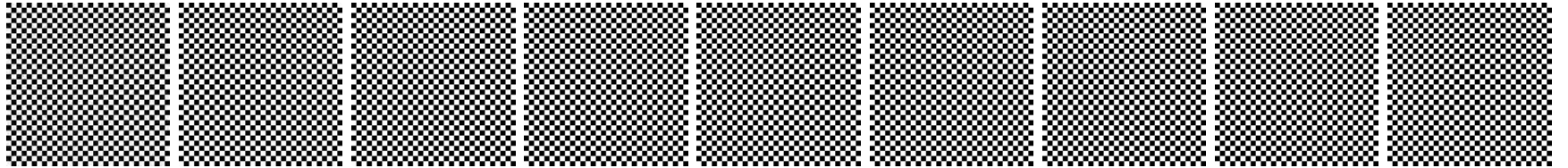
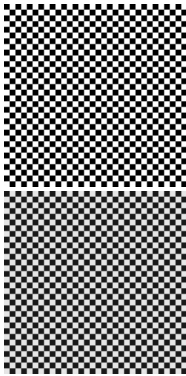
Legend



\sqrt{N} = linear resolution (pixels),
 SNR_{in} = input (image acquisition) SNR,
 SNR_C = actual input SNR,
 SNR_R = SNR after deconvolution,
 a = “deconvolution penalty” factor,
 μ_C = convolved image signal level average,
 σ_C = convolved image variance,
 μ_R = deconvolved image average,
 σ_R = deconvolved image variance.

For a given image size w , the predicted value of the deconvolution penalty is $a = 0.891w/(d\sqrt{N})$ where d is the telescope aperture. We use $w = 1300$ m (consistent with an exoplanet at ~ 30 pc) and $d = 1$ m, for which $a = (9.05, 4.52, 2.26, 1.13)$, respectively, for $\sqrt{N} = (128, 256, 512, 1024)$. The actual deconvolution result in the simulations is slightly better, approaching prediction as $w/d \rightarrow \sqrt{N}$ and pixels become adjacent.

Object: check



Object: scope

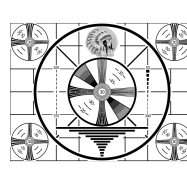
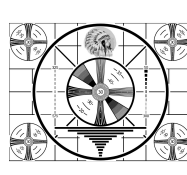
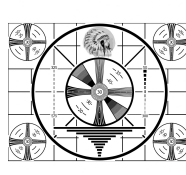
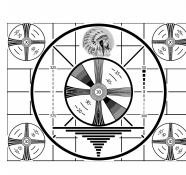
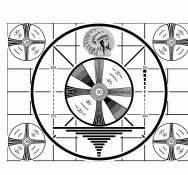
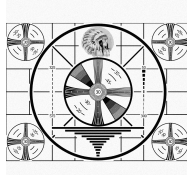
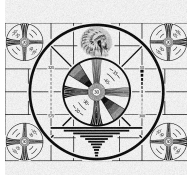
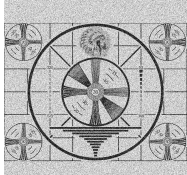
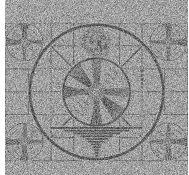
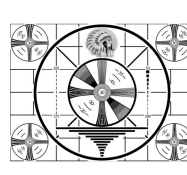
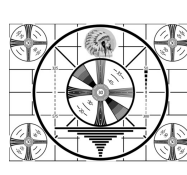
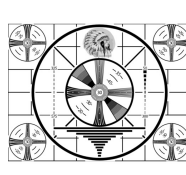
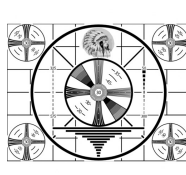
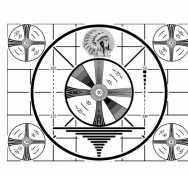
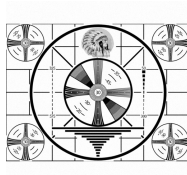
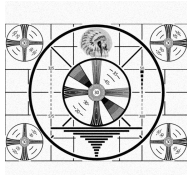
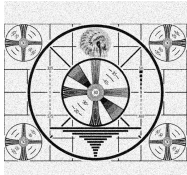
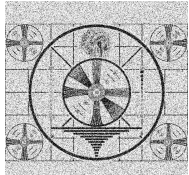
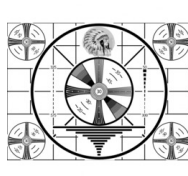
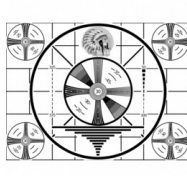
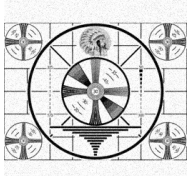
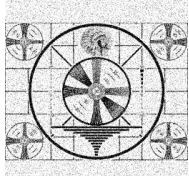
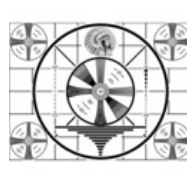
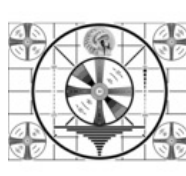
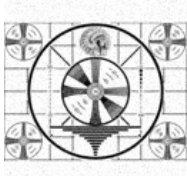
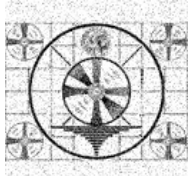


Image	\sqrt{N}	SNR_{in}	SNR_C	SNR_R	a	μ_C	σ_C	μ_R	σ_R
earth	128	10	9.9859	7.9811	102.3	0.002566	0.002213	0.2625	0.2706
earth	128	30	29.958	23.943	102.3	0.002565	0.002201	0.2624	0.2689
earth	128	100	99.859	79.811	102.3	0.002565	0.0022	0.2624	0.2688
earth	128	300	299.58	239.43	102.3	0.002565	0.002199	0.2624	0.2687
earth	128	1000	998.59	798.11	102.3	0.002565	0.002199	0.2624	0.2687
earth	128	3000	2995.8	2394.3	102.3	0.002565	0.002199	0.2624	0.2687
earth	128	10000	9985.9	7981.1	102.3	0.002565	0.002199	0.2624	0.2687
earth	128	30000	29958	23943	102.3	0.002565	0.002199	0.2624	0.2687
earth	128	100000	99862	79809	102.3	0.002565	0.002199	0.2624	0.2687
earth	256	10	9.9754	4.965	127.4	0.00206	0.001286	0.2625	0.2772
earth	256	30	29.926	14.895	127.4	0.002059	0.001272	0.2624	0.2727
earth	256	100	99.754	49.65	127.4	0.002059	0.00127	0.2624	0.2722
earth	256	300	299.26	148.95	127.4	0.002059	0.00127	0.2624	0.2721
earth	256	1000	997.54	496.5	127.4	0.002059	0.00127	0.2624	0.2721
earth	256	3000	2992.6	1489.5	127.4	0.002059	0.00127	0.2624	0.2721
earth	256	10000	9975.4	4965	127.4	0.002059	0.00127	0.2624	0.2721
earth	256	30000	29926	14895	127.4	0.002059	0.00127	0.2624	0.2721
earth	256	100000	99740	49654	127.4	0.002059	0.00127	0.2624	0.2721
earth	512	10	10.004	1.9827	101.5	0.002585	0.001008	0.2624	0.3051
earth	512	30	30.012	5.9481	101.5	0.002585	0.0009788	0.2624	0.2784
earth	512	100	100.04	19.827	101.5	0.002585	0.0009754	0.2624	0.2752
earth	512	300	300.12	59.481	101.5	0.002585	0.0009752	0.2624	0.275
earth	512	1000	1000.4	198.27	101.5	0.002585	0.0009751	0.2624	0.2749
earth	512	3000	3001.2	594.81	101.5	0.002585	0.0009751	0.2624	0.2749
earth	512	10000	10004	1982.7	101.5	0.002585	0.0009751	0.2624	0.2749
earth	512	30000	30012	5948.1	101.5	0.002585	0.0009751	0.2624	0.2749
earth	512	100000	100020	19827	101.5	0.002585	0.0009751	0.2624	0.2749
earth	1024	10	10.002	0.58133	59.52	0.004406	0.001279	0.2624	0.5303
earth	1024	30	30.005	1.744	59.52	0.004406	0.00121	0.2624	0.3165
earth	1024	100	100.02	5.8133	59.52	0.004406	0.001201	0.2624	0.2821
earth	1024	300	300.05	17.44	59.52	0.004406	0.001201	0.2624	0.2789
earth	1024	1000	1000.2	58.133	59.52	0.004406	0.001201	0.2624	0.2785
earth	1024	3000	3000.5	174.4	59.52	0.004406	0.001201	0.2624	0.2785
earth	1024	10000	10002	581.33	59.52	0.004406	0.001201	0.2624	0.2785
earth	1024	30000	30004	1744	59.52	0.004406	0.001201	0.2624	0.2785
earth	1024	100000	99999	5813.5	59.53	0.004406	0.001201	0.2624	0.2785

Image	\sqrt{N}	SNR_{in}	SNR_C	SNR_R	a	μ_C	σ_C	μ_R	σ_R
modis	128	10	9.9859	7.9811	102.3	0.001632	0.001604	0.1669	0.1981
modis	128	30	29.958	23.943	102.3	0.001631	0.001597	0.1669	0.1971
modis	128	100	99.859	79.811	102.3	0.001631	0.001597	0.1669	0.197
modis	128	300	299.58	239.43	102.3	0.001631	0.001597	0.1669	0.197
modis	128	1000	998.59	798.11	102.3	0.001631	0.001597	0.1669	0.197
modis	128	3000	2995.8	2394.3	102.3	0.001631	0.001597	0.1669	0.197
modis	128	10000	9985.8	7981.1	102.3	0.001631	0.001597	0.1669	0.197
modis	128	30000	29957	23944	102.3	0.001631	0.001597	0.1669	0.197
modis	128	100000	99858	79854	102.4	0.001631	0.001597	0.1669	0.197
modis	256	10	9.9754	4.965	127.4	0.00131	0.0009266	0.1669	0.2074
modis	256	30	29.926	14.895	127.4	0.00131	0.0009179	0.1669	0.2049
modis	256	100	99.754	49.65	127.4	0.00131	0.0009168	0.1669	0.2046
modis	256	300	299.26	148.95	127.4	0.00131	0.0009167	0.1669	0.2045
modis	256	1000	997.54	496.5	127.4	0.00131	0.0009167	0.1669	0.2045
modis	256	3000	2992.6	1489.5	127.4	0.00131	0.0009167	0.1669	0.2045
modis	256	10000	9975.4	4965	127.4	0.00131	0.0009167	0.1669	0.2045
modis	256	30000	29927	14895	127.4	0.00131	0.0009167	0.1669	0.2045
modis	256	100000	99741	49670	127.5	0.00131	0.0009167	0.1669	0.2045
modis	512	10	10.004	1.9827	101.5	0.001644	0.0006872	0.1669	0.227
modis	512	30	30.012	5.9481	101.5	0.001644	0.0006699	0.1669	0.2129
modis	512	100	100.04	19.827	101.5	0.001644	0.000668	0.1669	0.2113
modis	512	300	300.12	59.481	101.5	0.001644	0.0006679	0.1669	0.2112
modis	512	1000	1000.4	198.27	101.5	0.001644	0.0006679	0.1669	0.2112
modis	512	3000	3001.2	594.81	101.5	0.001644	0.0006679	0.1669	0.2112
modis	512	10000	10004	1982.7	101.5	0.001644	0.0006679	0.1669	0.2112
modis	512	30000	30012	5948.2	101.5	0.001644	0.0006679	0.1669	0.2112
modis	512	100000	100060	19830	101.5	0.001644	0.0006679	0.1669	0.2112
modis	1024	10	10.002	0.58133	59.52	0.002802	0.0008295	0.1669	0.3626
modis	1024	30	30.005	1.744	59.52	0.002802	0.0007865	0.1669	0.2414
modis	1024	100	100.02	5.8133	59.52	0.002802	0.0007814	0.1669	0.2235
modis	1024	300	300.05	17.44	59.52	0.002802	0.000781	0.1669	0.2218
modis	1024	1000	1000.2	58.133	59.52	0.002802	0.000781	0.1669	0.2216
modis	1024	3000	3000.5	174.4	59.52	0.002802	0.000781	0.1669	0.2216
modis	1024	10000	10002	581.33	59.52	0.002802	0.000781	0.1669	0.2216
modis	1024	30000	30004	1744	59.52	0.002802	0.000781	0.1669	0.2216
modis	1024	100000	100010	5813.4	59.53	0.002802	0.000781	0.1669	0.2216

Image	\sqrt{N}	SNR_{in}	SNR_C	SNR_R	a	μ_C	σ_C	μ_R	σ_R
udisk	128	10	9.9859	7.9811	102.3	0.005314	0.004106	0.5437	0.4981
udisk	128	30	29.958	23.943	102.3	0.005313	0.004076	0.5435	0.494
udisk	128	100	99.859	79.811	102.3	0.005312	0.004073	0.5435	0.4936
udisk	128	300	299.58	239.43	102.3	0.005312	0.004073	0.5434	0.4935
udisk	128	1000	998.59	798.11	102.3	0.005312	0.004073	0.5434	0.4935
udisk	128	3000	2995.8	2394.3	102.3	0.005312	0.004073	0.5434	0.4935
udisk	128	10000	9985.8	7981.1	102.3	0.005312	0.004073	0.5434	0.4935
udisk	128	30000	29958	23943	102.3	0.005312	0.004073	0.5434	0.4935
udisk	128	100000	99851	79812	102.3	0.005312	0.004073	0.5434	0.4935
udisk	256	10	9.9754	4.965	127.4	0.004266	0.002421	0.5436	0.5075
udisk	256	30	29.926	14.895	127.4	0.004265	0.002388	0.5435	0.4971
udisk	256	100	99.754	49.65	127.4	0.004265	0.002385	0.5434	0.4959
udisk	256	300	299.26	148.95	127.4	0.004265	0.002384	0.5434	0.4958
udisk	256	1000	997.54	496.5	127.4	0.004265	0.002384	0.5434	0.4958
udisk	256	3000	2992.6	1489.5	127.4	0.004265	0.002384	0.5434	0.4958
udisk	256	10000	9975.4	4965	127.4	0.004265	0.002384	0.5434	0.4958
udisk	256	30000	29926	14895	127.4	0.004265	0.002384	0.5434	0.4958
udisk	256	100000	99733	49654	127.4	0.004265	0.002384	0.5434	0.4958
udisk	512	10	10.004	1.9827	101.5	0.005354	0.001976	0.5434	0.5673
udisk	512	30	30.012	5.9481	101.5	0.005354	0.001911	0.5434	0.5052
udisk	512	100	100.04	19.827	101.5	0.005354	0.001904	0.5434	0.4977
udisk	512	300	300.12	59.481	101.5	0.005354	0.001903	0.5434	0.497
udisk	512	1000	1000.4	198.27	101.5	0.005354	0.001903	0.5434	0.4969
udisk	512	3000	3001.2	594.81	101.5	0.005354	0.001903	0.5434	0.4969
udisk	512	10000	10004	1982.7	101.5	0.005354	0.001903	0.5434	0.4969
udisk	512	30000	30012	5948.1	101.5	0.005354	0.001903	0.5434	0.4969
udisk	512	100000	100060	19828	101.5	0.005354	0.001903	0.5434	0.4969
udisk	1024	10	10.002	0.58133	59.52	0.009126	0.002586	0.5434	1.059
udisk	1024	30	30.005	1.744	59.52	0.009126	0.002439	0.5434	0.5872
udisk	1024	100	100.02	5.8133	59.52	0.009126	0.002422	0.5434	0.5065
udisk	1024	300	300.05	17.44	59.52	0.009126	0.00242	0.5434	0.4989
udisk	1024	1000	1000.2	58.133	59.52	0.009126	0.00242	0.5434	0.498
udisk	1024	3000	3000.5	174.4	59.52	0.009126	0.00242	0.5434	0.4979
udisk	1024	10000	10002	581.33	59.52	0.009126	0.00242	0.5434	0.4979
udisk	1024	30000	30005	1744	59.52	0.009126	0.00242	0.5434	0.4979
udisk	1024	100000	100070	5813.4	59.49	0.009126	0.00242	0.5434	0.4979

Image	\sqrt{N}	SNR_{in}	SNR_C	SNR_R	a	μ_C	σ_C	μ_R	σ_R
check	128	10	9.9859	7.9811	102.3	0.00489	0.003937	0.5002	0.5037
check	128	30	29.958	23.943	102.3	0.004888	0.003911	0.5001	0.5004
check	128	100	99.859	79.811	102.3	0.004888	0.003909	0.5	0.5
check	128	300	299.58	239.43	102.3	0.004887	0.003909	0.5	0.5
check	128	1000	998.59	798.11	102.3	0.004887	0.003909	0.5	0.5
check	128	3000	2995.8	2394.3	102.3	0.004887	0.003909	0.5	0.5
check	128	10000	9985.7	7981.1	102.3	0.004887	0.003909	0.5	0.5
check	128	30000	29953	23943	102.3	0.004887	0.003909	0.5	0.5
check	128	100000	99701	79813	102.5	0.004887	0.003909	0.5	0.5
check	256	10	9.9754	4.965	127.4	0.003925	0.001994	0.5001	0.5099
check	256	30	29.926	14.895	127.4	0.003924	0.00196	0.5	0.5011
check	256	100	99.754	49.65	127.4	0.003924	0.001956	0.5	0.5001
check	256	300	299.26	148.95	127.4	0.003924	0.001955	0.5	0.5
check	256	1000	997.54	496.5	127.4	0.003924	0.001955	0.5	0.5
check	256	3000	2992.6	1489.5	127.4	0.003924	0.001955	0.5	0.5
check	256	10000	9975.3	4965	127.4	0.003924	0.001955	0.5	0.5
check	256	30000	29923	14895	127.4	0.003924	0.001955	0.5	0.5
check	256	100000	99650	49651	127.6	0.003924	0.001955	0.5	0.5
check	512	10	10.004	1.9827	101.5	0.004926	0.001095	0.5	0.5598
check	512	30	30.012	5.9481	101.5	0.004926	0.0009924	0.5	0.5069
check	512	100	100.04	19.827	101.5	0.004926	0.0009801	0.5	0.5006
check	512	300	300.12	59.481	101.5	0.004926	0.000979	0.5	0.5001
check	512	1000	1000.4	198.27	101.5	0.004926	0.0009789	0.5	0.5
check	512	3000	3001.2	594.81	101.5	0.004926	0.0009789	0.5	0.5
check	512	10000	10005	1982.7	101.5	0.004926	0.0009789	0.5	0.5
check	512	30000	30032	5948.1	101.4	0.004926	0.0009789	0.5	0.5
check	512	100000	100830	19827	100.7	0.004926	0.0009789	0.5	0.5
check	1024	10	10.002	0.58133	59.52	0.008397	0.0009728	0.5	0.9953
check	1024	30	30.005	1.744	59.52	0.008397	0.0005651	0.5	0.5766
check	1024	100	100.02	5.8133	59.52	0.008397	0.0004978	0.5	0.5074
check	1024	300	300.05	17.44	59.52	0.008397	0.0004914	0.5	0.5009
check	1024	1000	1000.2	58.133	59.52	0.008397	0.0004907	0.5	0.5001
check	1024	3000	3000.4	174.4	59.52	0.008397	0.0004906	0.5	0.5
check	1024	10000	9998.9	581.33	59.53	0.008397	0.0004906	0.5	0.5
check	1024	30000	29928	1744	59.67	0.008397	0.0004906	0.5	0.5
check	1024	100000	97227	5813.4	61.23	0.008397	0.0004906	0.5	0.5

Image	\sqrt{N}	SNR_{in}	SNR_C	SNR_R	a	μ_C	σ_C	μ_R	σ_R
white	128	10	9.9859	7.9811	102.3	0.009476	0.001667	0.9694	0.2123
white	128	30	29.958	23.943	102.3	0.009473	0.001402	0.9691	0.1783
white	128	100	99.859	79.811	102.3	0.009472	0.001368	0.969	0.1738
white	128	300	299.58	239.43	102.3	0.009472	0.001364	0.969	0.1734
white	128	1000	998.59	798.11	102.3	0.009472	0.001364	0.969	0.1733
white	128	3000	2995.8	2394.3	102.3	0.009472	0.001364	0.969	0.1733
white	128	10000	9985.9	7981.1	102.3	0.009472	0.001364	0.969	0.1733
white	128	30000	29958	23943	102.3	0.009472	0.001364	0.969	0.1733
white	128	100000	99862	79810	102.3	0.009472	0.001364	0.969	0.1733
white	256	10	9.9754	4.965	127.4	0.007727	0.0009179	0.9847	0.2339
white	256	30	29.926	14.895	127.4	0.007726	0.0005559	0.9845	0.1404
white	256	100	99.754	49.65	127.4	0.007726	0.0004982	0.9845	0.1254
white	256	300	299.26	148.95	127.4	0.007726	0.0004928	0.9844	0.124
white	256	1000	997.54	496.5	127.4	0.007725	0.0004922	0.9844	0.1238
white	256	3000	2992.6	1489.5	127.4	0.007725	0.0004921	0.9844	0.1238
white	256	10000	9975.4	4965	127.4	0.007725	0.0004921	0.9844	0.1238
white	256	30000	29926	14895	127.4	0.007725	0.0004921	0.9844	0.1238
white	256	100000	99753	49651	127.4	0.007725	0.0004921	0.9844	0.1238
white	512	10	10.004	1.9827	101.5	0.009776	0.0009938	0.9922	0.5082
white	512	30	30.012	5.9481	101.5	0.009776	0.0003722	0.9922	0.1886
white	512	100	100.04	19.827	101.5	0.009776	0.0002048	0.9922	0.1012
white	512	300	300.12	59.481	101.5	0.009776	0.0001829	0.9922	0.08954
white	512	1000	1000.4	198.27	101.5	0.009776	0.0001803	0.9922	0.0881
white	512	3000	3001.2	594.81	101.5	0.009776	0.00018	0.9922	0.08797
white	512	10000	10004	1982.7	101.5	0.009776	0.00018	0.9922	0.08796
white	512	30000	30012	5948.1	101.5	0.009776	0.00018	0.9922	0.08796
white	512	100000	100050	19827	101.5	0.009776	0.00018	0.9922	0.08796
white	1024	10	10.002	0.58133	59.52	0.01673	0.001674	0.9961	1.715
white	1024	30	30.005	1.744	59.52	0.01673	0.0005619	0.9961	0.5746
white	1024	100	100.02	5.8133	59.52	0.01673	0.0001814	0.9961	0.1824
white	1024	300	300.05	17.44	59.52	0.01673	8.968e-05	0.9961	0.08456
white	1024	1000	1000.2	58.133	59.52	0.01673	7.221e-05	0.9961	0.06466
white	1024	3000	3000.5	174.4	59.52	0.01673	7.047e-05	0.9961	0.06261
white	1024	10000	10002	581.33	59.52	0.01673	7.027e-05	0.9961	0.06237
white	1024	30000	30003	1744	59.52	0.01673	7.025e-05	0.9961	0.06235
white	1024	100000	99958	5813.3	59.55	0.01673	7.025e-05	0.9961	0.06235

Image	\sqrt{N}	SNR_{in}	SNR_C	SNR_R	a	μ_C	σ_C	μ_R	σ_R
black	128	10	9.9859	7.9811	102.3	0.0003032	0.001364	0.03102	0.1733
black	128	30	29.958	23.943	102.3	0.0003031	0.001364	0.03101	0.1733
black	128	100	99.859	79.811	102.3	0.0003031	0.001364	0.03101	0.1733
black	128	300	299.58	239.43	102.3	0.0003031	0.001364	0.03101	0.1733
black	128	1000	998.59	798.11	102.3	0.0003031	0.001364	0.03101	0.1733
black	128	3000	2995.8	2394.3	102.3	0.0003031	0.001364	0.03101	0.1733
black	128	10000	9985.7	7981.1	102.3	0.0003031	0.001364	0.03101	0.1733
black	128	30000	29956	23943	102.3	0.0003031	0.001364	0.03101	0.1733
black	128	100000	99802	80141	102.8	0.0003031	0.001364	0.03101	0.1733
black	256	10	9.9754	4.965	127.4	0.0001222	0.0004923	0.01557	0.1238
black	256	30	29.926	14.895	127.4	0.0001222	0.0004921	0.01557	0.1238
black	256	100	99.754	49.65	127.4	0.0001221	0.0004921	0.01556	0.1238
black	256	300	299.26	148.95	127.4	0.0001221	0.0004921	0.01556	0.1238
black	256	1000	997.54	496.5	127.4	0.0001221	0.0004921	0.01556	0.1238
black	256	3000	2992.6	1489.5	127.4	0.0001221	0.0004921	0.01556	0.1238
black	256	10000	9975.4	4965.1	127.4	0.0001221	0.0004921	0.01556	0.1238
black	256	30000	29924	14904	127.5	0.0001221	0.0004921	0.01556	0.1238
black	256	100000	99600	50681	130.3	0.0001221	0.0004921	0.01556	0.1238
black	512	10	10.004	1.9827	101.5	7.682e-05	0.0001801	0.007797	0.08804
black	512	30	30.012	5.9481	101.5	7.682e-05	0.00018	0.007797	0.08797
black	512	100	100.04	19.827	101.5	7.683e-05	0.00018	0.007797	0.08796
black	512	300	300.12	59.481	101.5	7.683e-05	0.00018	0.007797	0.08796
black	512	1000	1000.4	198.27	101.5	7.683e-05	0.00018	0.007797	0.08796
black	512	3000	3001.2	594.81	101.5	7.683e-05	0.00018	0.007797	0.08796
black	512	10000	10004	1982.8	101.5	7.683e-05	0.00018	0.007797	0.08796
black	512	30000	30011	5953.1	101.6	7.683e-05	0.00018	0.007797	0.08796
black	512	100000	99922	20401	104.5	7.683e-05	0.00018	0.007797	0.08796
black	1024	10	10.002	0.58133	59.52	6.554e-05	7.055e-05	0.003903	0.06271
black	1024	30	30.005	1.744	59.52	6.554e-05	7.028e-05	0.003902	0.06239
black	1024	100	100.02	5.8133	59.52	6.553e-05	7.025e-05	0.003902	0.06235
black	1024	300	300.05	17.44	59.52	6.553e-05	7.025e-05	0.003902	0.06235
black	1024	1000	1000.2	58.133	59.52	6.553e-05	7.025e-05	0.003902	0.06235
black	1024	3000	3000.5	174.4	59.52	6.553e-05	7.025e-05	0.003902	0.06235
black	1024	10000	10002	581.34	59.52	6.553e-05	7.025e-05	0.003902	0.06235
black	1024	30000	30006	1744.8	59.54	6.553e-05	7.025e-05	0.003902	0.06235
black	1024	100000	99928	5908.5	60.55	6.553e-05	7.025e-05	0.003902	0.06235

Image	\sqrt{N}	SNR_{in}	SNR_C	SNR_R	a	μ_C	σ_C	μ_R	σ_R
scope	128	10	9.9859	7.9811	102.3	0.008245	0.002115	0.8435	0.2678
scope	128	30	29.958	23.943	102.3	0.008242	0.001966	0.8433	0.2485
scope	128	100	99.859	79.811	102.3	0.008242	0.001948	0.8432	0.2462
scope	128	300	299.58	239.43	102.3	0.008241	0.001946	0.8431	0.246
scope	128	1000	998.59	798.11	102.3	0.008241	0.001946	0.8431	0.2459
scope	128	3000	2995.8	2394.3	102.3	0.008241	0.001946	0.8431	0.2459
scope	128	10000	9985.9	7981.1	102.3	0.008241	0.001946	0.8431	0.2459
scope	128	30000	29958	23944	102.3	0.008241	0.001946	0.8431	0.2459
scope	128	100000	99868	79815	102.3	0.008241	0.001946	0.8431	0.2459
scope	256	10	9.9754	4.965	127.4	0.006624	0.001332	0.8441	0.33
scope	256	30	29.926	14.895	127.4	0.006623	0.001174	0.8439	0.288
scope	256	100	99.754	49.65	127.4	0.006622	0.001154	0.8439	0.2827
scope	256	300	299.26	148.95	127.4	0.006622	0.001152	0.8438	0.2822
scope	256	1000	997.54	496.5	127.4	0.006622	0.001152	0.8438	0.2822
scope	256	3000	2992.6	1489.5	127.4	0.006622	0.001152	0.8438	0.2822
scope	256	10000	9975.4	4965	127.4	0.006622	0.001152	0.8438	0.2822
scope	256	30000	29926	14895	127.4	0.006622	0.001152	0.8438	0.2822
scope	256	100000	99752	49644	127.4	0.006622	0.001152	0.8438	0.2822
scope	512	10	10.004	1.9827	101.5	0.008314	0.001098	0.8438	0.5273
scope	512	30	30.012	5.9481	101.5	0.008315	0.0007696	0.8439	0.3423
scope	512	100	100.04	19.827	101.5	0.008315	0.000723	0.8439	0.3145
scope	512	300	300.12	59.481	101.5	0.008315	0.0007188	0.8439	0.312
scope	512	1000	1000.4	198.27	101.5	0.008315	0.0007183	0.8439	0.3117
scope	512	3000	3001.2	594.81	101.5	0.008315	0.0007183	0.8439	0.3117
scope	512	10000	10004	1982.7	101.5	0.008315	0.0007183	0.8439	0.3117
scope	512	30000	30011	5948.1	101.5	0.008315	0.0007183	0.8439	0.3117
scope	512	100000	100030	19827	101.5	0.008315	0.0007183	0.8439	0.3117
scope	1024	10	10.002	0.58133	59.52	0.01418	0.001544	0.8443	1.492
scope	1024	30	30.005	1.744	59.52	0.01418	0.0007728	0.8443	0.5918
scope	1024	100	100.02	5.8133	59.52	0.01418	0.0006275	0.8443	0.3699
scope	1024	300	300.05	17.44	59.52	0.01418	0.000613	0.8443	0.3436
scope	1024	1000	1000.2	58.133	59.52	0.01418	0.0006114	0.8443	0.3404
scope	1024	3000	3000.5	174.4	59.52	0.01418	0.0006112	0.8443	0.3401
scope	1024	10000	10002	581.33	59.52	0.01418	0.0006112	0.8443	0.3401
scope	1024	30000	30004	1744	59.52	0.01418	0.0006112	0.8443	0.3401
scope	1024	100000	100020	5813.3	59.51	0.01418	0.0006112	0.8443	0.3401