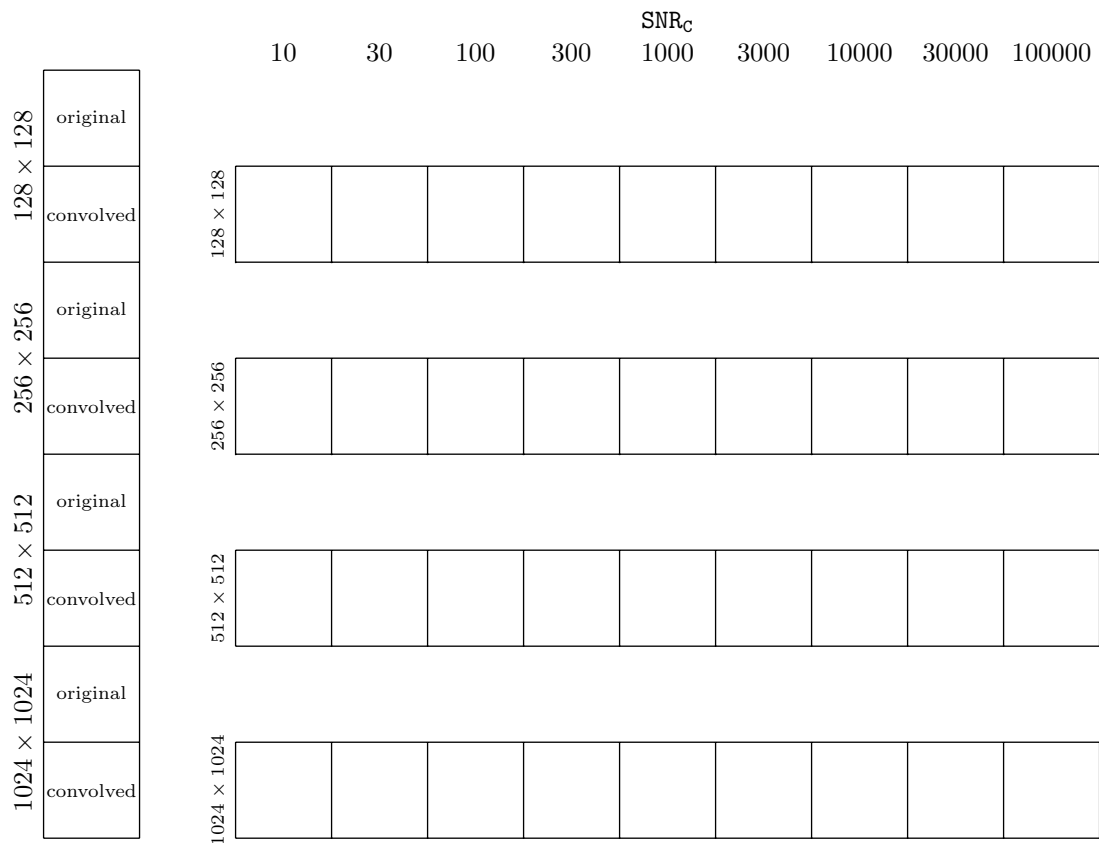


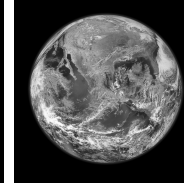
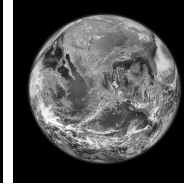
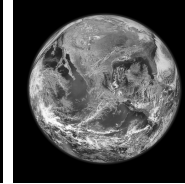
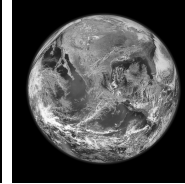
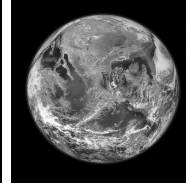
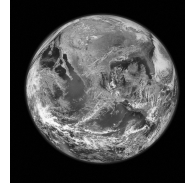
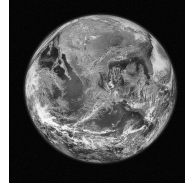
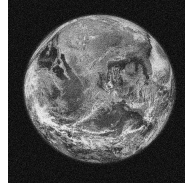
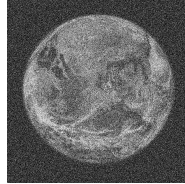
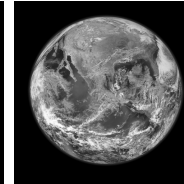
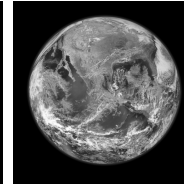
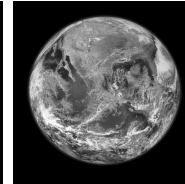
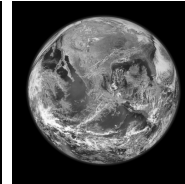
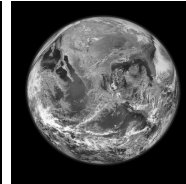
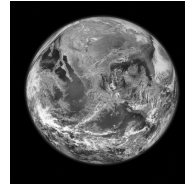
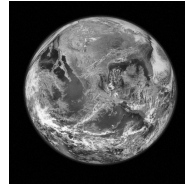
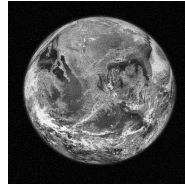
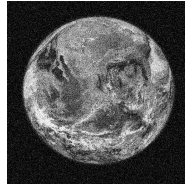
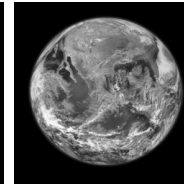
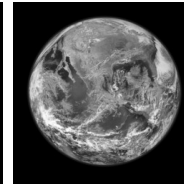
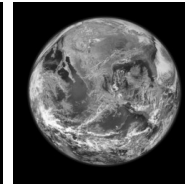
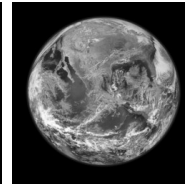
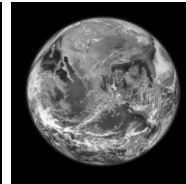
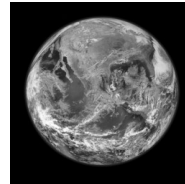
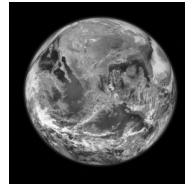
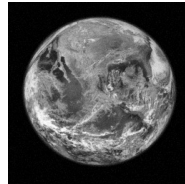
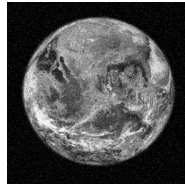
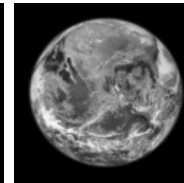
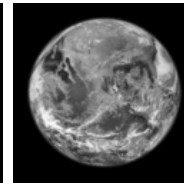
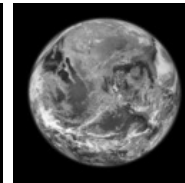
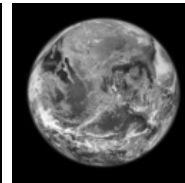
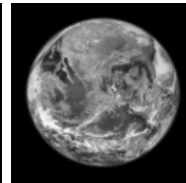
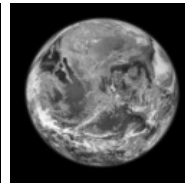
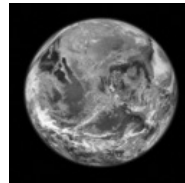
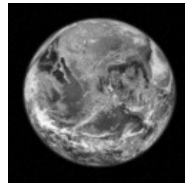
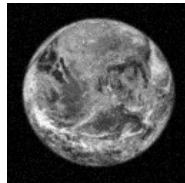
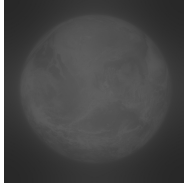
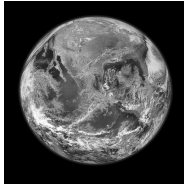
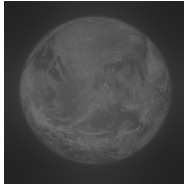
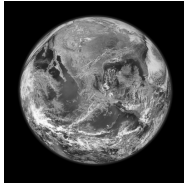
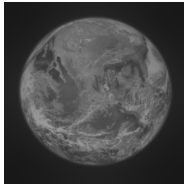
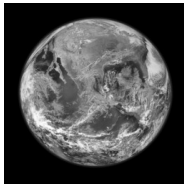
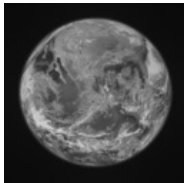
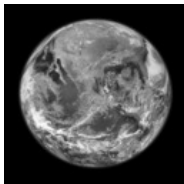
# Legend



$\sqrt{N}$  = linear resolution (pixels),  
 SNR<sub>in</sub> = input (image acquisition) SNR,  
 SNR<sub>C</sub> = actual input SNR,  
 SNR<sub>R</sub> = SNR after deconvolution,  
 $a$  = “deconvolution penalty” factor,  
 $\mu_C$  = convolved image signal level average,  
 $\sigma_C$  = convolved image variance,  
 $\mu_R$  = deconvolved image average,  
 $\sigma_R$  = 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  $\sim 30$  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: earth

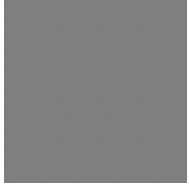
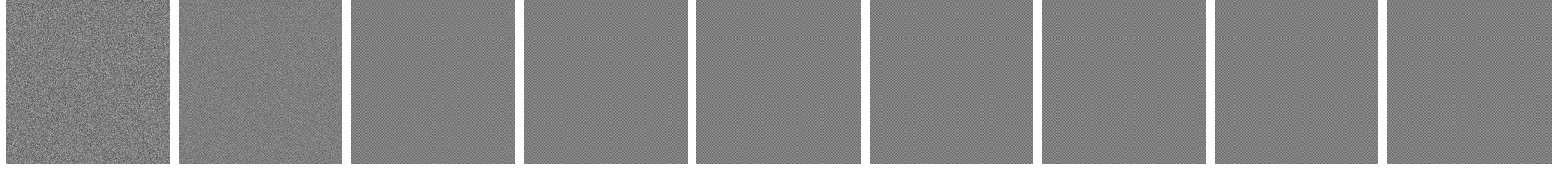
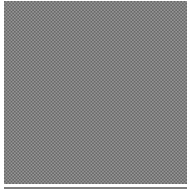
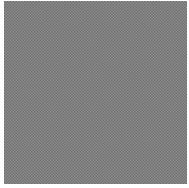
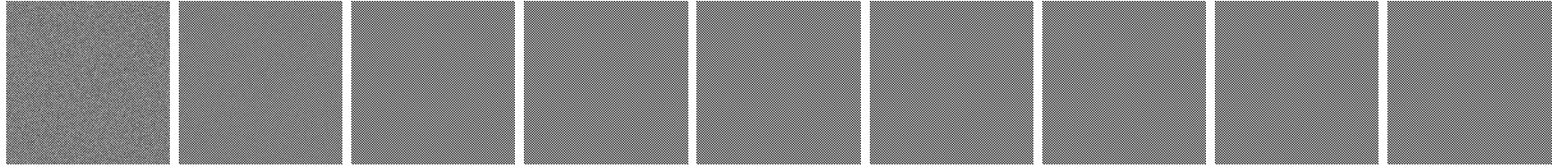
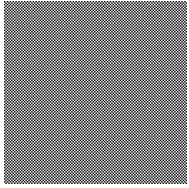
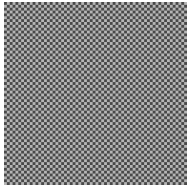
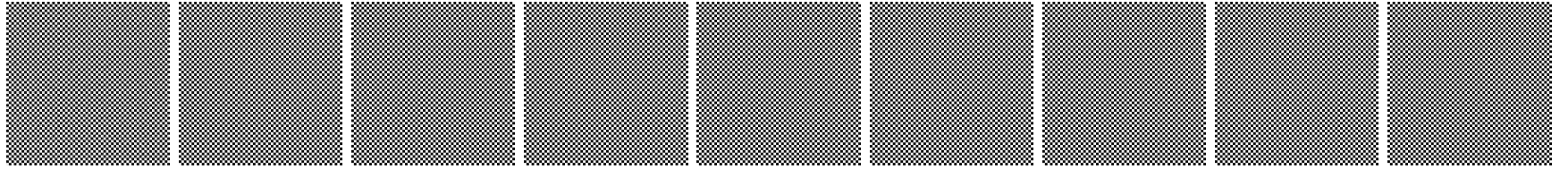
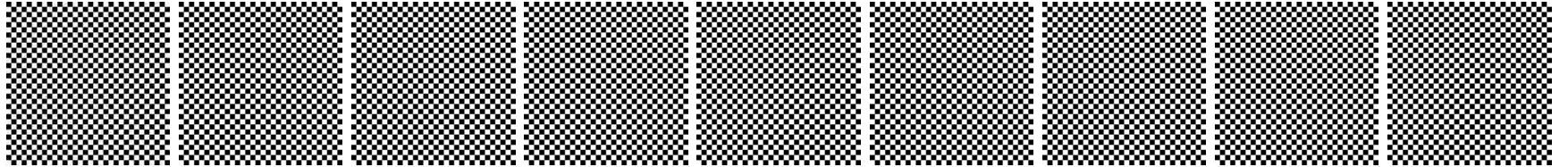
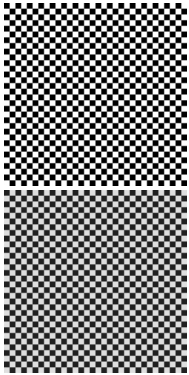








Object: check







Object: scope

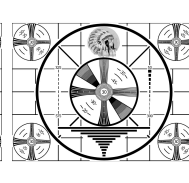
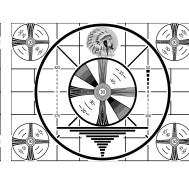
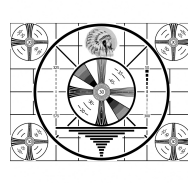
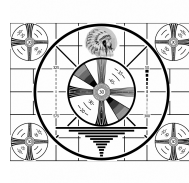
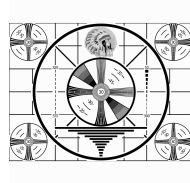
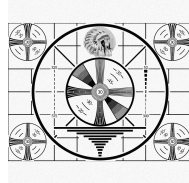
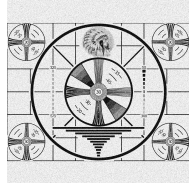
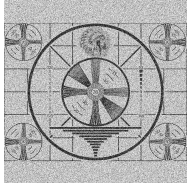
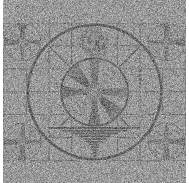
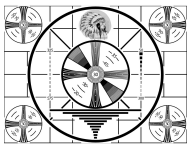
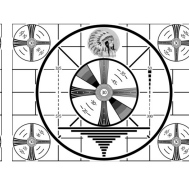
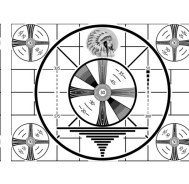
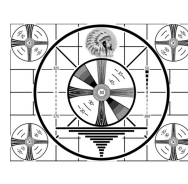
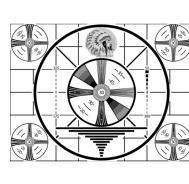
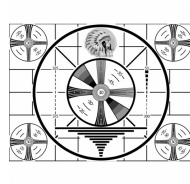
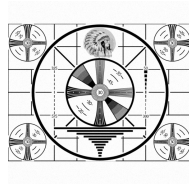
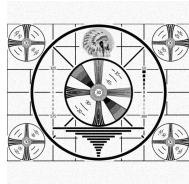
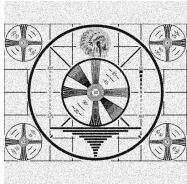
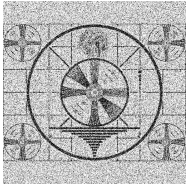
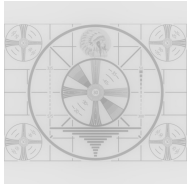
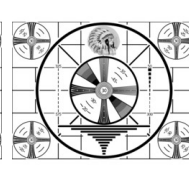
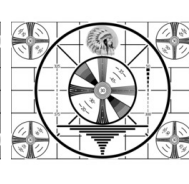
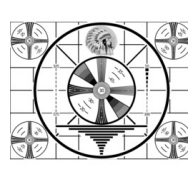
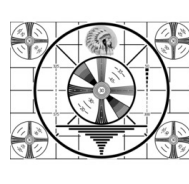
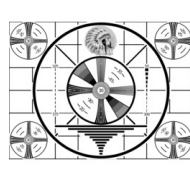
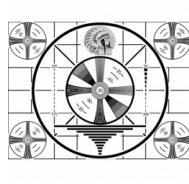
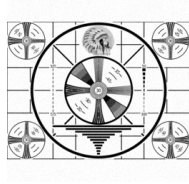
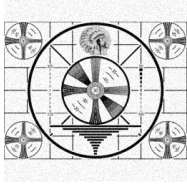
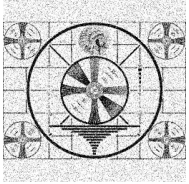
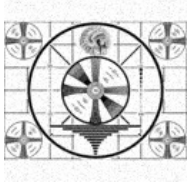
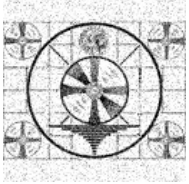


Image	$\sqrt{N}$	$\text{SNR}_{\text{in}}$	$\text{SNR}_C$	$\text{SNR}_R$	$a$	$\mu_C$	$\sigma_C$	$\mu_R$	$\sigma_R$
earth	128	10	9.9859	7.4914	96.03	0.002734	0.002248	0.2625	0.2709
earth	128	30	29.958	22.474	96.03	0.002733	0.002234	0.2624	0.269
earth	128	100	99.859	74.914	96.03	0.002733	0.002232	0.2624	0.2688
earth	128	300	299.58	224.74	96.03	0.002733	0.002232	0.2624	0.2687
earth	128	1000	998.59	749.14	96.03	0.002733	0.002232	0.2624	0.2687
earth	128	3000	2995.8	2247.4	96.03	0.002733	0.002232	0.2624	0.2687
earth	128	10000	9985.8	7491.4	96.03	0.002733	0.002232	0.2624	0.2687
earth	128	30000	29958	22474	96.03	0.002733	0.002232	0.2624	0.2687
earth	128	100000	99869	74912	96.01	0.002733	0.002232	0.2624	0.2687
earth	256	10	9.9754	4.267	109.5	0.002396	0.001361	0.2625	0.2789
earth	256	30	29.926	12.801	109.5	0.002396	0.001342	0.2624	0.2729
earth	256	100	99.754	42.67	109.5	0.002396	0.00134	0.2624	0.2722
earth	256	300	299.26	128.01	109.5	0.002396	0.00134	0.2624	0.2721
earth	256	1000	997.54	426.7	109.5	0.002396	0.00134	0.2624	0.2721
earth	256	3000	2992.6	1280.1	109.5	0.002396	0.00134	0.2624	0.2721
earth	256	10000	9975.4	4267	109.5	0.002396	0.00134	0.2624	0.2721
earth	256	30000	29926	12801	109.5	0.002396	0.00134	0.2624	0.2721
earth	256	100000	99762	42673	109.5	0.002396	0.00134	0.2624	0.2721
earth	512	10	10.004	1.5721	80.46	0.00326	0.001171	0.2624	0.3216
earth	512	30	30.012	4.7164	80.46	0.00326	0.00113	0.2624	0.2805
earth	512	100	100.04	15.721	80.46	0.00326	0.001126	0.2624	0.2754
earth	512	300	300.12	47.164	80.46	0.00326	0.001125	0.2624	0.275
earth	512	1000	1000.4	157.21	80.46	0.00326	0.001125	0.2624	0.2749
earth	512	3000	3001.2	471.64	80.46	0.00326	0.001125	0.2624	0.2749
earth	512	10000	10004	1572.1	80.46	0.00326	0.001125	0.2624	0.2749
earth	512	30000	30012	4716.4	80.46	0.00326	0.001125	0.2624	0.2749
earth	512	100000	100040	15721	80.46	0.00326	0.001125	0.2624	0.2749
earth	1024	10	10.002	0.44477	45.54	0.005758	0.001619	0.2624	0.6523
earth	1024	30	30.005	1.3343	45.54	0.005758	0.001525	0.2624	0.3409
earth	1024	100	100.02	4.4477	45.54	0.005758	0.001514	0.2624	0.2847
earth	1024	300	300.05	13.343	45.54	0.005757	0.001513	0.2624	0.2792
earth	1024	1000	1000.2	44.477	45.54	0.005757	0.001513	0.2624	0.2785
earth	1024	3000	3000.5	133.43	45.54	0.005757	0.001513	0.2624	0.2785
earth	1024	10000	10002	444.77	45.54	0.005757	0.001513	0.2624	0.2785
earth	1024	30000	30004	1334.3	45.54	0.005757	0.001513	0.2624	0.2785
earth	1024	100000	99974	4447.8	45.56	0.005757	0.001513	0.2624	0.2785

Image	$\sqrt{N}$	$\text{SNR}_{\text{in}}$	$\text{SNR}_C$	$\text{SNR}_R$	$a$	$\mu_C$	$\sigma_C$	$\mu_R$	$\sigma_R$
modis	128	10	9.9859	7.4914	96.03	0.001739	0.001624	0.1669	0.1982
modis	128	30	29.958	22.474	96.03	0.001738	0.001616	0.1669	0.1972
modis	128	100	99.859	74.914	96.03	0.001738	0.001615	0.1669	0.1971
modis	128	300	299.58	224.74	96.03	0.001738	0.001615	0.1669	0.197
modis	128	1000	998.59	749.14	96.03	0.001738	0.001615	0.1669	0.197
modis	128	3000	2995.8	2247.4	96.03	0.001738	0.001615	0.1669	0.197
modis	128	10000	9985.9	7491.4	96.03	0.001738	0.001615	0.1669	0.197
modis	128	30000	29958	22475	96.03	0.001738	0.001615	0.1669	0.197
modis	128	100000	99864	74944	96.06	0.001738	0.001615	0.1669	0.197
modis	256	10	9.9754	4.267	109.5	0.001524	0.0009699	0.1669	0.2084
modis	256	30	29.926	12.801	109.5	0.001524	0.0009587	0.1669	0.205
modis	256	100	99.754	42.67	109.5	0.001524	0.0009573	0.1669	0.2046
modis	256	300	299.26	128.01	109.5	0.001524	0.0009572	0.1669	0.2045
modis	256	1000	997.54	426.7	109.5	0.001524	0.0009571	0.1669	0.2045
modis	256	3000	2992.6	1280.1	109.5	0.001524	0.0009571	0.1669	0.2045
modis	256	10000	9975.4	4267	109.5	0.001524	0.0009571	0.1669	0.2045
modis	256	30000	29926	12801	109.5	0.001524	0.0009571	0.1669	0.2045
modis	256	100000	99746	42683	109.6	0.001524	0.0009571	0.1669	0.2045
modis	512	10	10.004	1.5721	80.46	0.002073	0.0007863	0.1669	0.2359
modis	512	30	30.012	4.7164	80.46	0.002073	0.0007622	0.1669	0.214
modis	512	100	100.04	15.721	80.46	0.002073	0.0007595	0.1669	0.2114
modis	512	300	300.12	47.164	80.46	0.002073	0.0007593	0.1669	0.2112
modis	512	1000	1000.4	157.21	80.46	0.002073	0.0007593	0.1669	0.2112
modis	512	3000	3001.2	471.64	80.46	0.002073	0.0007593	0.1669	0.2112
modis	512	10000	10004	1572.1	80.46	0.002073	0.0007593	0.1669	0.2112
modis	512	30000	30012	4716.4	80.46	0.002073	0.0007593	0.1669	0.2112
modis	512	100000	99990	15723	80.51	0.002073	0.0007593	0.1669	0.2112
modis	1024	10	10.002	0.44477	45.54	0.003661	0.001044	0.1669	0.4357
modis	1024	30	30.005	1.3343	45.54	0.003661	0.0009858	0.1669	0.2544
modis	1024	100	100.02	4.4477	45.54	0.003661	0.0009789	0.1669	0.2248
modis	1024	300	300.05	13.343	45.54	0.003661	0.0009783	0.1669	0.222
modis	1024	1000	1000.2	44.477	45.54	0.003661	0.0009783	0.1669	0.2217
modis	1024	3000	3000.5	133.43	45.54	0.003661	0.0009783	0.1669	0.2216
modis	1024	10000	10002	444.77	45.54	0.003661	0.0009783	0.1669	0.2216
modis	1024	30000	30005	1334.3	45.54	0.003661	0.0009783	0.1669	0.2216
modis	1024	100000	100030	4447.8	45.53	0.003661	0.0009783	0.1669	0.2216

Image	$\sqrt{N}$	$\text{SNR}_{\text{in}}$	$\text{SNR}_C$	$\text{SNR}_R$	$a$	$\mu_C$	$\sigma_C$	$\mu_R$	$\sigma_R$
udisk	128	10	9.9859	7.4914	96.03	0.005662	0.004182	0.5437	0.4987
udisk	128	30	29.958	22.474	96.03	0.00566	0.004148	0.5435	0.4941
udisk	128	100	99.859	74.914	96.03	0.005659	0.004144	0.5435	0.4936
udisk	128	300	299.58	224.74	96.03	0.005659	0.004144	0.5434	0.4935
udisk	128	1000	998.59	749.14	96.03	0.005659	0.004144	0.5434	0.4935
udisk	128	3000	2995.8	2247.4	96.03	0.005659	0.004144	0.5434	0.4935
udisk	128	10000	9985.9	7491.4	96.03	0.005659	0.004144	0.5434	0.4935
udisk	128	30000	29958	22474	96.03	0.005659	0.004144	0.5434	0.4935
udisk	128	100000	99860	74912	96.02	0.005659	0.004144	0.5434	0.4935
udisk	256	10	9.9754	4.267	109.5	0.004963	0.002581	0.5436	0.5117
udisk	256	30	29.926	12.801	109.5	0.004962	0.002538	0.5435	0.4975
udisk	256	100	99.754	42.67	109.5	0.004962	0.002534	0.5434	0.4959
udisk	256	300	299.26	128.01	109.5	0.004962	0.002533	0.5434	0.4958
udisk	256	1000	997.54	426.7	109.5	0.004962	0.002533	0.5434	0.4958
udisk	256	3000	2992.6	1280.1	109.5	0.004962	0.002533	0.5434	0.4958
udisk	256	10000	9975.4	4267	109.5	0.004962	0.002533	0.5434	0.4958
udisk	256	30000	29926	12801	109.5	0.004962	0.002533	0.5434	0.4958
udisk	256	100000	99739	42672	109.5	0.004962	0.002533	0.5434	0.4958
udisk	512	10	10.004	1.5721	80.46	0.006752	0.002315	0.5434	0.6051
udisk	512	30	30.012	4.7164	80.46	0.006752	0.002227	0.5434	0.51
udisk	512	100	100.04	15.721	80.46	0.006752	0.002217	0.5434	0.4981
udisk	512	300	300.12	47.164	80.46	0.006752	0.002216	0.5434	0.4971
udisk	512	1000	1000.4	157.21	80.46	0.006752	0.002216	0.5434	0.4969
udisk	512	3000	3001.2	471.64	80.46	0.006752	0.002216	0.5434	0.4969
udisk	512	10000	10004	1572.1	80.46	0.006752	0.002216	0.5434	0.4969
udisk	512	30000	30012	4716.4	80.46	0.006752	0.002216	0.5434	0.4969
udisk	512	100000	100020	15722	80.47	0.006752	0.002216	0.5434	0.4969
udisk	1024	10	10.002	0.44477	45.54	0.01192	0.003284	0.5434	1.319
udisk	1024	30	30.005	1.3343	45.54	0.01192	0.003086	0.5434	0.6431
udisk	1024	100	100.02	4.4477	45.54	0.01192	0.003063	0.5434	0.5126
udisk	1024	300	300.05	13.343	45.54	0.01192	0.003061	0.5434	0.4995
udisk	1024	1000	1000.2	44.477	45.54	0.01192	0.003061	0.5434	0.498
udisk	1024	3000	3000.5	133.43	45.54	0.01192	0.003061	0.5434	0.4979
udisk	1024	10000	10002	444.77	45.54	0.01192	0.003061	0.5434	0.4979
udisk	1024	30000	30005	1334.3	45.54	0.01192	0.003061	0.5434	0.4979
udisk	1024	100000	99986	4447.7	45.55	0.01192	0.003061	0.5434	0.4979

Image	$\sqrt{N}$	$\text{SNR}_{\text{in}}$	$\text{SNR}_C$	$\text{SNR}_R$	$a$	$\mu_C$	$\sigma_C$	$\mu_R$	$\sigma_R$
check	128	10	9.9859	7.4914	96.03	0.005209	0.003942	0.5002	0.5042
check	128	30	29.958	22.474	96.03	0.005208	0.003912	0.5001	0.5004
check	128	100	99.859	74.914	96.03	0.005207	0.003909	0.5	0.5
check	128	300	299.58	224.74	96.03	0.005207	0.003909	0.5	0.5
check	128	1000	998.59	749.14	96.03	0.005207	0.003909	0.5	0.5
check	128	3000	2995.8	2247.4	96.03	0.005207	0.003909	0.5	0.5
check	128	10000	9985.8	7491.4	96.03	0.005207	0.003909	0.5	0.5
check	128	30000	29956	22474	96.03	0.005207	0.003909	0.5	0.5
check	128	100000	99792	74917	96.09	0.005207	0.003909	0.5	0.5
check	256	10	9.9754	4.267	109.5	0.004567	0.002008	0.5001	0.5134
check	256	30	29.926	12.801	109.5	0.004566	0.001962	0.5	0.5015
check	256	100	99.754	42.67	109.5	0.004566	0.001957	0.5	0.5001
check	256	300	299.26	128.01	109.5	0.004565	0.001956	0.5	0.5
check	256	1000	997.54	426.7	109.5	0.004565	0.001956	0.5	0.5
check	256	3000	2992.6	1280.1	109.5	0.004565	0.001956	0.5	0.5
check	256	10000	9975.5	4267	109.5	0.004565	0.001956	0.5	0.5
check	256	30000	29928	12801	109.5	0.004565	0.001956	0.5	0.5
check	256	100000	99857	42671	109.4	0.004565	0.001956	0.5	0.5
check	512	10	10.004	1.5721	80.46	0.006212	0.001159	0.5	0.5923
check	512	30	30.012	4.7164	80.46	0.006212	0.001001	0.5	0.511
check	512	100	100.04	15.721	80.46	0.006212	0.0009815	0.5	0.501
check	512	300	300.12	47.164	80.46	0.006212	0.0009798	0.5	0.5001
check	512	1000	1000.4	157.21	80.46	0.006212	0.0009796	0.5	0.5
check	512	3000	3001.2	471.64	80.46	0.006212	0.0009796	0.5	0.5
check	512	10000	10004	1572.1	80.46	0.006212	0.0009796	0.5	0.5
check	512	30000	30018	4716.4	80.44	0.006212	0.0009796	0.5	0.5
check	512	100000	100290	15721	80.26	0.006212	0.0009796	0.5	0.5
check	1024	10	10.002	0.44477	45.54	0.01097	0.001202	0.5	1.231
check	1024	30	30.005	1.3343	45.54	0.01097	0.0006128	0.5	0.6252
check	1024	100	100.02	4.4477	45.54	0.01097	0.0005036	0.5	0.5126
check	1024	300	300.05	13.343	45.54	0.01097	0.0004928	0.5	0.5014
check	1024	1000	1000.2	44.477	45.54	0.01097	0.0004915	0.5	0.5001
check	1024	3000	3000.6	133.43	45.53	0.01097	0.0004914	0.5	0.5
check	1024	10000	10006	444.77	45.52	0.01097	0.0004914	0.5	0.5
check	1024	30000	30112	1334.3	45.38	0.01097	0.0004914	0.5	0.5
check	1024	100000	104120	4447.7	43.74	0.01097	0.0004914	0.5	0.5



Image	$\sqrt{N}$	$\text{SNR}_{\text{in}}$	$\text{SNR}_C$	$\text{SNR}_R$	$a$	$\mu_C$	$\sigma_C$	$\mu_R$	$\sigma_R$
white	128	10	9.9859	7.4914	96.03	0.0101	0.001706	0.9694	0.217
white	128	30	29.958	22.474	96.03	0.01009	0.00141	0.9691	0.1789
white	128	100	99.859	74.914	96.03	0.01009	0.001371	0.969	0.1739
white	128	300	299.58	224.74	96.03	0.01009	0.001367	0.969	0.1734
white	128	1000	998.59	749.14	96.03	0.01009	0.001367	0.969	0.1733
white	128	3000	2995.8	2247.4	96.03	0.01009	0.001367	0.969	0.1733
white	128	10000	9985.9	7491.4	96.03	0.01009	0.001367	0.969	0.1733
white	128	30000	29958	22474	96.03	0.01009	0.001367	0.969	0.1733
white	128	100000	99870	74916	96.02	0.01009	0.001367	0.969	0.1733
white	256	10	9.9754	4.267	109.5	0.008991	0.001028	0.9847	0.2619
white	256	30	29.926	12.801	109.5	0.008989	0.0005793	0.9845	0.1458
white	256	100	99.754	42.67	109.5	0.008989	0.0005033	0.9845	0.1259
white	256	300	299.26	128.01	109.5	0.008989	0.000496	0.9844	0.124
white	256	1000	997.54	426.7	109.5	0.008989	0.0004952	0.9844	0.1238
white	256	3000	2992.6	1280.1	109.5	0.008989	0.0004951	0.9844	0.1238
white	256	10000	9975.4	4267	109.5	0.008989	0.0004951	0.9844	0.1238
white	256	30000	29926	12801	109.5	0.008989	0.0004951	0.9844	0.1238
white	256	100000	99760	42671	109.5	0.008989	0.0004951	0.9844	0.1238
white	512	10	10.004	1.5721	80.46	0.01233	0.001246	0.9922	0.6373
white	512	30	30.012	4.7164	80.46	0.01233	0.0004499	0.9922	0.2281
white	512	100	100.04	15.721	80.46	0.01233	0.0002208	0.9922	0.1083
white	512	300	300.12	47.164	80.46	0.01233	0.0001878	0.9922	0.09046
white	512	1000	1000.4	157.21	80.46	0.01233	0.0001836	0.9922	0.08819
white	512	3000	3001.2	471.64	80.46	0.01233	0.0001832	0.9922	0.08798
white	512	10000	10004	1572.1	80.46	0.01233	0.0001832	0.9922	0.08796
white	512	30000	30011	4716.4	80.46	0.01233	0.0001832	0.9922	0.08796
white	512	100000	100050	15721	80.45	0.01233	0.0001832	0.9922	0.08796
white	1024	10	10.002	0.44477	45.54	0.02186	0.002187	0.9961	2.24
white	1024	30	30.005	1.3343	45.54	0.02186	0.0007323	0.9961	0.7491
white	1024	100	100.02	4.4477	45.54	0.02186	0.0002309	0.9961	0.2325
white	1024	300	300.05	13.343	45.54	0.02186	0.0001043	0.9961	0.09727
white	1024	1000	1000.2	44.477	45.54	0.02186	7.776e-05	0.9961	0.06625
white	1024	3000	3000.5	133.43	45.54	0.02186	7.498e-05	0.9961	0.06279
white	1024	10000	10002	444.77	45.54	0.02186	7.466e-05	0.9961	0.06239
white	1024	30000	30005	1334.3	45.54	0.02186	7.463e-05	0.9961	0.06235
white	1024	100000	100020	4447.7	45.53	0.02186	7.463e-05	0.9961	0.06235

Image	$\sqrt{N}$	$\text{SNR}_{\text{in}}$	$\text{SNR}_C$	$\text{SNR}_R$	$a$	$\mu_C$	$\sigma_C$	$\mu_R$	$\sigma_R$
black	128	10	9.9859	7.4914	96.03	0.000323	0.001367	0.03102	0.1734
black	128	30	29.958	22.474	96.03	0.0003229	0.001367	0.03101	0.1733
black	128	100	99.859	74.914	96.03	0.0003229	0.001367	0.03101	0.1733
black	128	300	299.58	224.74	96.03	0.0003229	0.001367	0.03101	0.1733
black	128	1000	998.59	749.14	96.03	0.0003229	0.001367	0.03101	0.1733
black	128	3000	2995.8	2247.4	96.03	0.0003229	0.001367	0.03101	0.1733
black	128	10000	9985.8	7491.4	96.03	0.0003229	0.001367	0.03101	0.1733
black	128	30000	29962	22475	96.02	0.0003229	0.001367	0.03101	0.1733
black	128	100000	99897	75120	96.25	0.0003229	0.001367	0.03101	0.1733
black	256	10	9.9754	4.267	109.5	0.0001421	0.0004953	0.01557	0.1238
black	256	30	29.926	12.801	109.5	0.0001421	0.0004951	0.01557	0.1238
black	256	100	99.754	42.67	109.5	0.0001421	0.0004951	0.01556	0.1238
black	256	300	299.26	128.01	109.5	0.0001421	0.0004951	0.01556	0.1238
black	256	1000	997.54	426.7	109.5	0.0001421	0.0004951	0.01556	0.1238
black	256	3000	2992.6	1280.1	109.5	0.0001421	0.0004951	0.01556	0.1238
black	256	10000	9975.4	4267.1	109.5	0.0001421	0.0004951	0.01556	0.1238
black	256	30000	29930	12805	109.5	0.0001421	0.0004951	0.01556	0.1238
black	256	100000	99880	43228	110.8	0.0001421	0.0004951	0.01556	0.1238
black	512	10	10.004	1.5721	80.46	9.688e-05	0.0001834	0.007797	0.08809
black	512	30	30.012	4.7164	80.46	9.688e-05	0.0001832	0.007797	0.08797
black	512	100	100.04	15.721	80.46	9.688e-05	0.0001832	0.007797	0.08796
black	512	300	300.12	47.164	80.46	9.688e-05	0.0001832	0.007797	0.08796
black	512	1000	1000.4	157.21	80.46	9.688e-05	0.0001832	0.007797	0.08796
black	512	3000	3001.2	471.64	80.46	9.688e-05	0.0001832	0.007797	0.08796
black	512	10000	10004	1572.2	80.46	9.688e-05	0.0001832	0.007797	0.08796
black	512	30000	30012	4718.2	80.49	9.688e-05	0.0001832	0.007797	0.08796
black	512	100000	100020	15944	81.62	9.688e-05	0.0001832	0.007797	0.08796
black	1024	10	10.002	0.44477	45.54	8.563e-05	7.512e-05	0.003903	0.06296
black	1024	30	30.005	1.3343	45.54	8.563e-05	7.468e-05	0.003902	0.06242
black	1024	100	100.02	4.4477	45.54	8.563e-05	7.463e-05	0.003902	0.06235
black	1024	300	300.05	13.343	45.54	8.563e-05	7.463e-05	0.003902	0.06235
black	1024	1000	1000.2	44.477	45.54	8.563e-05	7.463e-05	0.003902	0.06235
black	1024	3000	3000.5	133.43	45.54	8.563e-05	7.463e-05	0.003902	0.06235
black	1024	10000	10002	444.77	45.54	8.563e-05	7.463e-05	0.003902	0.06235
black	1024	30000	30007	1334.6	45.54	8.563e-05	7.463e-05	0.003902	0.06235
black	1024	100000	100100	4480.1	45.83	8.563e-05	7.463e-05	0.003902	0.06235

Image	$\sqrt{N}$	$\text{SNR}_{\text{in}}$	$\text{SNR}_C$	$\text{SNR}_R$	$a$	$\mu_C$	$\sigma_C$	$\mu_R$	$\sigma_R$
scope	128	10	9.9859	7.4914	96.03	0.008784	0.002144	0.8435	0.2706
scope	128	30	29.958	22.474	96.03	0.008781	0.001977	0.8433	0.2488
scope	128	100	99.859	74.914	96.03	0.00878	0.001956	0.8432	0.2462
scope	128	300	299.58	224.74	96.03	0.00878	0.001955	0.8431	0.246
scope	128	1000	998.59	749.14	96.03	0.00878	0.001954	0.8431	0.2459
scope	128	3000	2995.8	2247.4	96.03	0.00878	0.001954	0.8431	0.2459
scope	128	10000	9985.9	7491.4	96.03	0.00878	0.001954	0.8431	0.2459
scope	128	30000	29958	22474	96.03	0.00878	0.001954	0.8431	0.2459
scope	128	100000	99865	74915	96.02	0.00878	0.001954	0.8431	0.2459
scope	256	10	9.9754	4.267	109.5	0.007707	0.001404	0.8441	0.3452
scope	256	30	29.926	12.801	109.5	0.007706	0.001198	0.8439	0.29
scope	256	100	99.754	42.67	109.5	0.007705	0.001172	0.8439	0.2829
scope	256	300	299.26	128.01	109.5	0.007705	0.001169	0.8438	0.2823
scope	256	1000	997.54	426.7	109.5	0.007705	0.001169	0.8438	0.2822
scope	256	3000	2992.6	1280.1	109.5	0.007705	0.001169	0.8438	0.2822
scope	256	10000	9975.4	4267	109.5	0.007705	0.001169	0.8438	0.2822
scope	256	30000	29926	12801	109.5	0.007705	0.001169	0.8438	0.2822
scope	256	100000	99766	42668	109.5	0.007705	0.001169	0.8438	0.2822
scope	512	10	10.004	1.5721	80.46	0.01048	0.001295	0.8438	0.6205
scope	512	30	30.012	4.7164	80.46	0.01048	0.0008372	0.8439	0.3592
scope	512	100	100.04	15.721	80.46	0.01048	0.0007682	0.8439	0.3162
scope	512	300	300.12	47.164	80.46	0.01048	0.0007619	0.8439	0.3122
scope	512	1000	1000.4	157.21	80.46	0.01048	0.0007612	0.8439	0.3117
scope	512	3000	3001.2	471.64	80.46	0.01049	0.0007612	0.8439	0.3117
scope	512	10000	10004	1572.1	80.46	0.01049	0.0007612	0.8439	0.3117
scope	512	30000	30012	4716.4	80.46	0.01049	0.0007612	0.8439	0.3117
scope	512	100000	100040	15721	80.46	0.01049	0.0007612	0.8439	0.3117
scope	1024	10	10.002	0.44477	45.54	0.01853	0.001989	0.8443	1.929
scope	1024	30	30.005	1.3343	45.54	0.01853	0.000952	0.8443	0.7185
scope	1024	100	100.02	4.4477	45.54	0.01853	0.0007477	0.8443	0.3896
scope	1024	300	300.05	13.343	45.54	0.01853	0.0007269	0.8443	0.346
scope	1024	1000	1000.2	44.477	45.54	0.01853	0.0007245	0.8443	0.3406
scope	1024	3000	3000.5	133.43	45.54	0.01853	0.0007243	0.8443	0.3402
scope	1024	10000	10002	444.77	45.54	0.01853	0.0007243	0.8443	0.3401
scope	1024	30000	30006	1334.3	45.54	0.01853	0.0007243	0.8443	0.3401
scope	1024	100000	99985	4447.7	45.55	0.01853	0.0007243	0.8443	0.3401