

$sn = \sigma_{\min}(A)$
 $snU = \sigma_{\min}(U)$ where $PA = LU$
 $snEst = \sigma_{\min}$ estimator applied to U

The following table is based upon 1000 samples for Each (sn, n) pair....

sn	n	sn/snU (Average)	snEst/snU (Average)	snEst/Snu (Maximum)
10-2	10	0.578	1.004343	4.121329
10-2	20	0.442	1.003423	1.919167
10-2	50	0.300	1.003944	1.140013
10-2	100	0.216	1.013530	3.346897
10-2	200	0.160	1.021941	1.934018
10-4	10	0.564	1.000000	1.000030
10-4	20	0.437	1.000000	1.000018
10-4	50	0.295	1.000001	1.000069
10-4	100	0.209	1.000003	1.001417
10-4	200	0.150	1.000004	1.000508
10-8	10	0.578	1.000000	1.000000
10-8	20	0.441	1.000000	1.000000
10-8	50	0.292	1.000000	1.000000
10-8	100	0.209	1.000000	1.000000
10-8	200	0.150	1.000000	1.000000
10-12	10	0.568	1.000000	1.000000
10-12	20	0.439	1.000000	1.000000
10-12	50	0.290	1.000000	1.000000
10-12	100	0.215	1.000000	1.000000
10-12	200	0.152	1.000000	1.000000