

Размерность	$\frac{\sigma_{max}}{\sigma_{min}}$	Интервал разброса σ	$\frac{1}{20} \sum_{i=1}^{20} \ I - U_i^T U_i\ $	$\frac{1}{20} \sum_{i=1}^{20} \ I - U_i U_i^T\ $	$\frac{1}{20} \sum_{i=1}^{20} \ I - V_i^T V_i\ $	$\frac{1}{20} \sum_{i=1}^{20} \ I - V_i V_i^T\ $	$\frac{1}{20} \sum_{i,j} \sigma_{ij} - \bar{\sigma}_{ij} $
3x3	1.01	[0,1]	6.26944e-08	6.26944e-08	2.2411e-31	2.17968e-31	5.91828e-07
3x3	1.01	[1, 100]	4.70947e-08	4.70947e-08	3.13422e-31	3.5097e-31	4.82677e-05
3x3	1.2	[0,1]	2.01426e-05	2.01426e-05	2.79919e-31	2.78607e-31	9.45733e-06
3x3	1.2	[1, 100]	2.55689e-06	2.55689e-06	2.73154e-31	2.37113e-31	0.000155479
3x3	2	[0,1]	9.26771e-05	9.26771e-05	2.47265e-31	2.54291e-31	2.13013e-06
3x3	2	[1, 100]	0.000267179	0.000267179	2.09636e-31	2.13028e-31	0.00328163
3x3	5	[0,1]	0.00499026	0.00499026	2.20404e-31	2.16484e-31	0.000404436
3x3	5	[1, 100]	0.00228808	0.00228808	2.12915e-31	2.11747e-31	0.015606
3x3	10	[0,1]	0.000117555	0.000117555	2.62434e-31	2.97126e-31	1.34215e-06
3x3	10	[1, 100]	0.0195212	0.0195212	2.0621e-31	2.15929e-31	0.0177583
3x3	50	[0,1]	0.24673	0.24673	2.83688e-31	2.7034e-31	0.00170567
3x3	50	[1, 100]	0.415407	0.415407	2.48555e-31	2.82728e-31	0.308689
5x5	1.01	[0,1]	3.42233e-11	3.42233e-11	1.53036e-30	1.55177e-30	8.1722e-10
5x5	1.01	[1, 100]	1.83098e-11	1.83098e-11	1.77218e-30	1.69969e-30	2.13807e-08
5x5	1.2	[0,1]	7.85622e-09	7.85622e-09	1.75776e-30	1.80278e-30	1.17651e-08
5x5	1.2	[1, 100]	1.6846e-10	1.6846e-10	1.48601e-30	1.49684e-30	7.6871e-09
5x5	2	[0,1]	3.87563e-08	3.87563e-08	1.62477e-30	1.58209e-30	3.91991e-09
5x5	2	[1, 100]	4.7529e-09	4.7529e-09	1.3918e-30	1.34153e-30	4.70252e-08
5x5	5	[0,1]	6.29161e-06	6.29161e-06	1.46775e-30	1.43887e-30	2.79517e-07
5x5	5	[1, 100]	2.12989e-06	2.12989e-06	1.64135e-30	1.70114e-30	2.80173e-06
5x5	10	[0,1]	9.48045e-08	9.48045e-08	1.31253e-30	1.35757e-30	9.83752e-10
5x5	10	[1, 100]	2.60027e-05	2.60027e-05	1.78961e-30	1.75303e-30	5.74104e-05
5x5	50	[0,1]	9.15142e-06	9.15142e-06	1.77714e-30	1.89836e-30	2.79177e-08
5x5	50	[1, 100]	6.43563e-05	6.43563e-05	1.78246e-30	1.75814e-30	4.71506e-05
10x10	1.01	[0,1]	7.25599e-17	7.25599e-17	1.18623e-29	1.16719e-29	9.99312e-14
10x10	1.01	[1, 100]	2.35003e-16	2.35003e-16	1.05388e-29	1.04122e-29	3.92042e-13
10x10	1.2	[0,1]	1.83852e-16	1.83852e-16	1.40025e-29	1.40868e-29	3.15165e-15
10x10	1.2	[1, 100]	1.41271e-16	1.41271e-16	1.43293e-29	1.47524e-29	1.08713e-13
10x10	2	[0,1]	2.17984e-16	2.17984e-16	1.521e-29	1.5166e-29	6.85563e-16
10x10	2	[1, 100]	2.04826e-16	2.04826e-16	1.5191e-29	1.51079e-29	7.03437e-14
10x10	5	[0,1]	6.91865e-16	6.91865e-16	1.59427e-29	1.63455e-29	7.02216e-16
10x10	5	[1, 100]	6.06788e-16	6.06788e-16	1.55256e-29	1.56343e-29	4.54747e-14
10x10	10	[0,1]	2.21551e-15	2.21551e-15	1.41517e-29	1.45148e-29	2.53964e-16
10x10	10	[1, 100]	1.32747e-15	1.32747e-15	1.52683e-29	1.55195e-29	1.36779e-14
10x10	50	[0,1]	6.2341e-14	6.2341e-14	1.66536e-29	1.65596e-29	6.83047e-16
10x10	50	[1, 100]	5.15138e-14	5.15138e-14	1.52117e-29	1.54366e-29	7.30527e-14
20x20	1.01	[0,1]	3.81516e-15	3.81516e-15	5.34516e-29	5.39208e-29	9.91163e-13
20x20	1.01	[1, 100]	3.45654e-15	3.45654e-15	5.01248e-29	5.01534e-29	1.36694e-11
20x20	1.2	[0,1]	1.83317e-15	1.83317e-15	8.50158e-29	8.49915e-29	7.41074e-16
20x20	1.2	[1, 100]	2.5586e-15	2.5586e-15	7.44335e-29	7.49607e-29	8.97771e-13
20x20	2	[0,1]	2.4693e-15	2.4693e-15	9.33337e-29	9.34048e-29	6.16174e-16
20x20	2	[1, 100]	2.77737e-15	2.77737e-15	1.08546e-28	1.0818e-28	1.37312e-13
20x20	5	[0,1]	8.65139e-15	8.65139e-15	9.55383e-29	9.54723e-29	1.25594e-15
20x20	5	[1, 100]	8.35051e-15	8.35051e-15	1.04846e-28	1.04775e-28	1.02318e-13

20x20	10	[0,1]	9.22597e-14	9.22597e-14	1.08276e-28	1.07994e-28	4.82496e-15
20x20	10	[1, 100]	1.7387e-14	1.7387e-14	1.02607e-28	1.03017e-28	1.49747e-13
20x20	50	[0,1]	1.34506e-12	1.34506e-12	1.15272e-28	1.14698e-28	3.1853e-15
20x20	50	[1, 100]	1.53024e-12	1.53024e-12	1.04033e-28	1.02624e-28	8.45035e-13
50x50	1.01	[0,1]	1.67949e-13	1.67949e-13	4.387e-28	4.35365e-28	1.1097e-11
50x50	1.01	[1, 100]	1.82964e-13	1.82964e-13	4.39177e-28	4.42782e-28	3.28247e-10
50x50	1.2	[0,1]	9.73023e-14	9.73023e-14	1.00491e-27	1.00419e-27	2.00816e-13
50x50	1.2	[1, 100]	1.26326e-13	1.26326e-13	9.58544e-28	9.59939e-28	1.69189e-10
50x50	2	[0,1]	1.36217e-13	1.36217e-13	1.10349e-27	1.1026e-27	6.91419e-14
50x50	2	[1, 100]	1.45687e-13	1.45687e-13	1.24274e-27	1.24602e-27	1.26015e-12
50x50	5	[0,1]	4.18561e-13	4.18561e-13	1.3346e-27	1.33416e-27	7.67206e-14
50x50	5	[1, 100]	3.25816e-13	3.25816e-13	1.2701e-27	1.27545e-27	3.03659e-12
50x50	10	[0,1]	1.0894e-12	1.0894e-12	1.37263e-27	1.37498e-27	7.84116e-14
50x50	10	[1, 100]	1.58872e-12	1.58872e-12	1.37834e-27	1.37891e-27	1.16849e-11
50x50	50	[0,1]	2.07268e-10	2.07268e-10	1.50788e-27	1.5081e-27	7.92305e-13
50x50	50	[1, 100]	7.15561e-11	7.15561e-11	1.43783e-27	1.44045e-27	2.88457e-11
100x100	1.01	[0,1]	4.26314e-12	4.26314e-12	1.96327e-27	1.9628e-27	1.06429e-11
100x100	1.01	[1, 100]	4.52041e-12	4.52041e-12	2.06348e-27	2.05402e-27	3.83977e-07
100x100	1.2	[0,1]	2.04563e-12	2.04563e-12	6.32461e-27	6.30519e-27	2.96753e-12
100x100	1.2	[1, 100]	2.1389e-12	2.1389e-12	5.96063e-27	5.95033e-27	1.33446e-09
100x100	2	[0,1]	3.77794e-12	3.77794e-12	7.7378e-27	7.71199e-27	9.12181e-13
100x100	2	[1, 100]	2.98944e-12	2.98944e-12	8.49042e-27	8.48459e-27	4.07526e-10
100x100	5	[0,1]	5.38496e-12	5.38496e-12	9.62937e-27	9.62267e-27	4.44458e-14
100x100	5	[1, 100]	4.87939e-12	4.87939e-12	9.84736e-27	9.84269e-27	1.69424e-11
100x100	10	[0,1]	2.27093e-11	2.27093e-11	9.65475e-27	9.6663e-27	9.06188e-13
100x100	10	[1, 100]	2.43493e-11	2.43493e-11	1.0159e-26	1.01667e-26	5.30865e-11
100x100	50	[0,1]	8.13016e-10	8.13016e-10	1.08217e-26	1.0815e-26	3.56202e-11
100x100	50	[1, 100]	1.04274e-09	1.04274e-09	1.06453e-26	1.06663e-26	1.12648e-09

Каждый раз генерировалось 20 матриц соответствующей размерности с $\frac{\sigma_{max}}{\sigma_{min}}$, где все сингулярные числа лежат в определенном интервале.

Сделал: Александр Нам, КМБО-04-20.