

A few results. For more explanation, see ReadMe.txt and the source code

			SPSO 2007				
			KISS, seed=1294404794				
			100 runs				
Function	Dim.	Comment	automatic swarm size S			Swarm size = 40	
			S	%	Mean best	%	Mean best
4 Tripod	2		12	56	5.03E-01	63	3.10E-01
11 Network	42	Partly binary	22	0	1.35E+02	0	1.06E+02
15 Step	10	Biased	16	99	1.00E-02	3	4.53E+00
17 Lennard-Jones	18	6 atoms	18	4	4.26E-01	3	6.40E-01
18 Gear train	4	Discrete	14	9	1.55E-09	16	2.47E-10
20 Perm	5	Discrete	14	16	5.10E+02	46	2.92E+02
21 Compression spring	3	Partly discrete	13	31	3.96E-02	72	1.91E-03
100 Sphere	30	Shifted	20	100	9.39E-07	100	9.00E-07
102 Rosenbrock	10	Shifted	16	68	5.75E+00	9	1.81E+00
103 Rastrigin	30	Shifted	20	0	5.39E+01	0	3.89E+01
104 Schwefel	10	Shifted	16	100	9.09E-05	100	8.57E-05
105 Griewank	10	Shifted	16	5	5.26E-02	18	3.05E-02
106 Ackley	30	Shifted	20	30	1.12E+00	98	1.87E-02
Total				518	7.07E+02	528	4.44E+02

SPSO 2011, swarm size 40								
Uniform radius, BW=(0,0,0,0), Confinement								
KISS, seed=1294404794			Mersenne, seed=1294404794			Mersenne, seed=1234567890		
100 runs			100 runs	1000 runs		100 runs		
4 Tripod	79	1.46E-01	72	1.54E-01	75	1.39E-01	74	1.45E-01
11 Network	0	1.09E+02	0	1.12E+02	0	1.11E+02	0	1.10E+02
15 Step	99	1.00E-02	99	1.00E-02	99	1.10E-02	98	2.00E-02
17 Lennard-Jones	0	9.18E-01	0	9.93E-01	0	9.34E-01	0	8.42E-01
18 Gear train	58	1.90E-11	46	2.61E-11	49	2.57E-11	64	3.19E-11
20 Perm	36	3.09E+02	29	3.43E+02	33	3.03E+02	32	3.38E+02
21 Compression spring	81	3.26E-03	79	3.55E-03	77	3.25E-03	78	4.51E-03
100 Sphere	100	0.00E+00	100	0.00E+00	100	0.00E+00	100	0.00E+00
102 Rosenbrock	50	5.77E+01	46	5.95E+01	45	6.62E+01	44	6.02E+01
103 Rastrigin	1	5.39E+00	0	5.26E+00	0	5.23E+00	0	5.24E+00
104 Schwefel	100	0.00E+00	100	0.00E+00	100	0.00E+00	100	0.00E+00
105 Griewank	9	2.15E-02	21	1.65E-02	12	2.07E-02	15	2.13E-02
106 Ackley	100	0.00E+00	100	0.00E+00	100	1.16E-03	100	0.00E+00
			713	4.82E+02	692	5.21E+02	690	4.86E+02
						705	5.15E+02	

100 runs is not always enough for a good estimation of the success rate (and of the mean best).

The result may depend on the RNG. Actually, even for a given RNG, it may depend on the seed..