

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
4 Tripod	2		12	56	5.03E-01
11 Network	42	Partly binary	22	0	1.35E+02
15 Step	10	Biased	16	99	1.00E-02
17 Lennard-Jones	186	atoms	18	4	4.26E-01
18 Gear train	4	Discrete	14	9	1.55E-09
20 Perm	5	Discrete	14	16	5.10E+02
21 Compression spring	3	Partly discrete	13	31	3.96E-02
100 Sphere	30	Shifted	20	100	9.39E-07
102 Rosenbrock	10	Shifted	16	68	5.75E+00
103 Rastrigin	30	Shifted	20	0	5.39E+01
104 Schwefel	10	Shifted	16	100	9.09E-05
105 Griewank	10	Shifted	16	5	5.26E-02
106 Ackley	30	Shifted	20	30	1.12E+00
Total				518	7.07E+02

SPSO 2011, swarm size 40					
Uniform radius, BW=(0,0,0), Confinement					
KISS, seed=1294404794					
100 runs					
Function	Dim.	Comment	Mersenne, seed=1294404794		Mersenne, seed=1234567890
			100 runs	1000 runs	100 runs
4 Tripod	79	1.46E-01	72	1.54E-01	74
11 Network	0	1.09E+02	0	1.12E+02	0
15 Step	99	1.00E-02	99	1.00E-02	98
17 Lennard-Jones	0	9.18E-01	0	9.93E-01	0
18 Gear train	58	1.90E-11	46	2.61E-11	64
20 Perm	36	3.09E+02	29	3.43E+02	32
21 Compression spring	81	3.26E-03	79	3.55E-03	78
100 Sphere	100	0.00E+00	100	0.00E+00	100
102 Rosenbrock	50	5.77E+01	46	5.95E+01	44
103 Rastrigin	1	5.39E+00	0	5.26E+00	0
104 Schwefel	100	0.00E+00	100	0.00E+00	100
105 Griewank	9	2.15E-02	21	1.65E-02	15
106 Ackley	100	0.00E+00	100	0.00E+00	100
	713	4.82E+02	692	5.21E+02	705

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..