

A few results (over 100 runs if nothing explicitly said)  
 For more explanation, see ReadMe.txt and the source code

Function	Dim.	Comment
4 Tripod	2	
11 Network	42	Partly binary
15 Step	10	Biased
17 Lennard-Jones	18	
18 Gear train	4	Discrete
20 Perm	5	Discrete
21 Compression spring	3	Partly discrete
100 Sphere	30	Shifted
102 Rosenbrock	10	Shifted
103 Rastrigin	30	Shifted
104 Schwefel	10	Shifted
105 Griewank	10	Shifted
106 Ackley	30	Shifted

Total

SPSO 2007, seed=1294404794 with the RNG KISS						
automatic swarm size S				Swarm size = 40		
S	%	Mean best		%	Mean best	
12	56	5.03E-001		63	3.10E-001	
22	0	1.35E+002		0	1.06E+002	
16	99	1.00E-002		3	4.53E+000	
18	5	4.68E-001		3	6.40E-001	
14	9	1.55E-009		16	2.47E-010	
14	16	5.10E+002		46	2.92E+002	
13	31	3.96E-002		72	1.91E-003	
20	100	9.39E-007		100	9.00E-007	
16	68	5.75E+000		9	1.81E+000	
20	0	5.39E+001		0	3.89E+001	
16	100	9.09E-005		100	8.57E-005	
16	5	5.26E-002		18	3.05E-002	
20	30	1.12E+000		98	1.87E-002	
	519	7.07E+002		528	4.44E+002	

	SPSO 2011, seed = 1294404794, for reproducible results								
	Uniform distribution			Gaussian distribution mean 0.5, sigma 1/12		Uniform distribution		Gaussian distribution mean 0.5, sigma 1/12	
	Confinement					No confinement			
	With "bells and whistles" (BW=(1,2)), mean swarm size = 40								
Function	%	Mean best	%	Mean best	%	Mean best	%	Mean best	
4	59	3.22E-001	56	4.93E-001	77	1.83E-001	64	3.43E-001	
11	0	1.16E+002	0	1.12E+002	0	3.00E+002	0	1.40E+002	
15	86	2.10E-001	97	3.00E-002	91	1.20E-001	100	0.00E+000	
17	3	1.29E+000	1	1.26E+000	3	9.67E-001	2	9.70E-001	
18	54	5.60E-011	61	3.67E-011	67	1.18E-011	64	1.11E-011	
20	68	1.37E+002	70	1.17E+002	49	2.24E+002	53	1.97E+002	
21	86	1.58E-003	74	3.13E-003	81	1.95E-003	80	1.97E-003	
100	100	9.21E-007	100	9.00E-007	100	9.19E-007	100	9.10E-007	
102	36	8.68E+001	40	5.25E+001	40	3.87E+001	43	6.80E+001	
103	0	4.56E+001	0	4.55E+001	0	5.96E+001	0	5.79E+001	
104	100	8.67E-005	100	8.75E-005	100	8.54E-005	100	8.71E-005	
105	29	2.24E-002	30	2.24E-002	26	2.63E-002	34	2.30E-002	
106	60	5.81E-001	66	4.46E-001	46	7.77E-001	57	5.86E-001	
Total	681	3,88E+002	695	3.29E+002	680	6,24E+002	697	4,65E+002	

SPSO 2011, seed=time, S=40			SPSO 2011, seed = 1294404794, for reproducible results with KISS								
Uniform distribution			Uniform distribution		Gaussian distribution mean 0.5, sigma 1/12		Uniform distribution		Gaussian distribution mean 0.5, sigma 1/12		
Confinement			Confinement				No confinement				
Without any "bell and whistle" , swarm size = 40											
Function		%	Mean best	%	Mean best	%	Mean best	%	Mean best	%	Mean best
4	100 runs is not enough for a good estimation of the success rate (and of the mean best). By just modifying the seed of the RNG, you may obtain very different results	47	4.66E-001	67	2.81E-001	45	5.72E-001	67	2.33E-001	63	3.21E-001
11		0	1.11E+002	0	1.08E+002	0	1.13E+002	0	1.31E+002	0	1.13E+002
15		96	4.00E-002	96	6.00E-002	100	0.00E+000	100	0.00E+000	100	0.00E+000
17		2	1.04E+000	0	1.01E+000	2	1.05E+000	8	6.61E-001	6	6.49E-001
18		70	3.82E-011	58	5.86E-011	61	2.74E-011	76	1.31E-011	74	7.55E-012
20		68	8.96E+001	65	1.15E+002	61	1.46E+002	41	2.42E+002	52	2.13E+002
21		78	2.13E-003	82	1.55E-003	75	3.64E-003	84	2.53E-003	73	3.92E-003
100		100	9.14E-007	100	9.13E-007	100	9.06E-007	100	9.12E-007	100	9.16E-007
102		31	7.93E+001	37	7.39E+001	41	6.28E+001	43	5.83E+001	51	5.71E+001
103		0	4.66E+001	0	4.59E+001	0	4.95E+001	0	6.63E+001	0	6.39E+001
104	100	8.81E-005	100	8.74E-005	100	8.85E-005	100	8.87E-005	100	8.62E-005	
105	40	1.93E-002	43	2.03E-002	36	2.14E-002	30	2.19E-002	38	2.03E-002	
106	41	8.68E-001	44	7.92E-001	48	6.36E-001	36	9.03E-001	53	6.39E-001	
Total		673	3.29E+002	692	3.45E+002	669	3.74E+002	685	4.99E+002	710	4.48E+002

SPSO 2011, seed = 1294404794, for reproducible results												
Uniform distribution			Gaussian distribution mean 0.5, sigma 1/12			Uniform distribution			Gaussian distribution mean 0.5, sigma 1/12			
Confinement						No confinement						
With "bells and whistles" (BW=(1,1)), mean swarm size = 40												
%	Mean best	Function	%	Mean best		%	Mean best		%	Mean best		
54	4.12E-001	4	49	5.28E-001		54	4.83E-001		76	0.186	66	0.308
0	1.12E+002	11	0	1.09E+002		0	1.07E+002		time out		time out	
96	4.00E-002	15	92	1.00E-001		98	2.00E-002		98	2.00E-002	100	0.00E+000
3	9.99E-001	17	0	4.07E+000		0	3.87E+000		0	3.95E+000	0	3.90E+000
61	3.11E-011	18	61	5.56E-011		71	1.95E-011		63	1.41E-011	66	1.74E-011
68	1.10E+002	20	71	9.61E+001		75	7.77E+001		50	2.44E+002	54	2.07E+002
79	2.59E-003	21	82	1.02E-003		87	1.82E-003		80	2.20E-003	76	2.61E-003
100	9.15E-007	100	100	8.95E-007		100	8.84E-007		100	8.98E-007	100	8.87E-007
37	7.41E+001	102	38	5.55E+001		50	8.69E+001		41	6.23E+001	42	7.11E+001
0	4.78E+001	103	0	1.66E+002		0	1.62E+002		0	1.65E+002	0	1.63E+002
100	8.77E-005	104	100	8.76E-005		100	8.53E-005		100	8.53E-005	100	8.65E-005
34	2.18E-002	105	33	2.22E-002		39	1.94E-002		27	2.53E-002	31	2.36E-002
42	8.09E-001	106	93	7.20E-002		96	3.73E-002		90	1.08E-001	92	8.89E-002
674	3.46E+002	Total	719	4.31E+002		770	4.38E+002		725	475.544773760815	661	4.45E+002

Without any confinement and with some BW, the result can be pretty good ... or extremely bad when a variable is discrete with very few possible values (two, here)