

Table 3: Parameter values of all algorithm instances. Each algorithm instance was generated by tuning its parameter on different problems using iRace.

(a) PSO. n: population size, w: inertia multiplier, c1: personal best multiplier, and c2: global best multiplier.

PSO				
instance	n	w	c1	c2
0 (F01)	50	0.88	0.54	0.83
1 (F06)	800	0.57	0.64	1.54
2 (F10)	25	0.81	1.28	0.57
3 (F16)	800	0.79	1.27	0.63
4 (F23)	800	0.63	0.15	0.95

(b) ATA. n: population size, c: personal best multiplier, tol: fitness tolerance to switch behavior.

ATA				
instance	n	c	tol	
0 (F01)	200	1.67	0.48	
1 (F06)	400	1.96	0.73	
2 (F10)	800	1.94	0.99	
3 (F16)	800	1.45	0.27	
4 (F23)	400	1.99	0.77	

(c) FFA. n: population size, gamma: distance multiplier, alpha: random walk multiplier.

FFA				
instance	n	gamma	alpha	
0 (F01)	25	0.11	3.74	
1 (F06)	25	0.39	1.53	
2 (F10)	25	0.99	0.92	
3 (F16)	200	0.87	3.49	
4 (F23)	200	0.9	1.63	

(d) GSA. n: population size, g0 and alpha: parameters for the distance between solutions multiplier.

GSA				
instance	n	g0	alpha	
0 (F01)	200	1	17	
1 (F06)	100	1	11	
2 (F10)	100	2	3	
3 (F16)	200	4	6	
4 (F23)	200	4	6	

(e) DE. n: population size, crx_prob: crossover probability (exponential), beta: differential multiplier.

DE				
instance	n	crx_prob	beta	
0 (F01)	200	0.89	-0.11	
1 (F06)	25	0.74	-0.63	
2 (F10)	25	0.83	-0.66	
3 (F16)	25	0.82	-0.99	
4 (F23)	100	0.94	0.25	

(f) SAA. n: population size, alpha: neighborhood step size.

SAA				
instance	n	alpha		
0 (F01)	25	0.01		
1 (F06)	25	0.02		
2 (F10)	25	0.06		
3 (F16)	25	0.06		
4 (F23)	25	0.01		

(g) RIO. n: population size, t_hunger: random update threshold, a: chances of exchange information with neighbors, c0: inertial multiplier, c1: personal and local best multipliers.

RIO					
instance	n	t_hunger	a	c0	c1
0 (F01)	25	0.84	(0.10, 0.48, 0.88)	1.46	1.38
1 (F06)	50	0.79	(0.32, 0.65, 0.82)	0.85	0.58
2 (F10)	25	0.9	(0.04, 0.43, 0.84)	0.77	0.45
3 (F16)	100	0.36	(0.04, 0.59, 0.79)	1.25	0.41
4 (F23)	200	0.67	(0.24, 0.74, 0.86)	1.22	1.1