Tab. 1 Comparison results among comparison algorithms on twenty four benchmarks, D=10

		BBO	DE	PSO	Firefly	Firework	ABC	OCABC	ILABC	dABC	distABC	ABCVSS	ABCM	ILTDABC
	mean	2.42E+01	8.37E-50	8.08E-25	2.04E-05	1.19E-112	1.32E-16	2.55E-52	4.59E-10	2.33E-51	1.38E-76	9.13E-71	1.68E-50	0
1	SD	1.02E+01	9.47E-50	1.72E-24	1.04E-05	5.31E-112	5.64E-17	1.14E-51	2.05E-09	8.72E-51	2.83E-76	3.54E-70	5.38E-50	0
	ranking	13	8	9	12	2	10	5	11	6	3	4	7	1
	wilcoxon	-	-	-	-	-	-	-	-	-	-	-	-	
	mean	1.19E+03	1.28E-18	1.63E-07	7.21E-05	3.26E-83	6.18E+01	1.64E+01	2.87E+02	6.89E+01	4.62E+01	1.20E+02	3.81E+01	0
2	SD	5.90E+02	2.11E-18	2.00E-07	2.38E-05	1.43E-82	3.48E+01	2.20E+01	2.00E+02	4.38E+01	2.73E+01	1.12E+02	2.37E+01	0
_	ranking	13	3	4	5	2	9	6	12	10	8	11	7	1
	wilcoxon	-	-	-	-	-	-	-	-	-	-	-	-	
	mean	1.38E+06	2.20E-48	1.65E-23	1.69E+03	2.03E-120	8.55E-17	1.01E-51	1.22E-106	1.32E-47	9.10E-74	8.73E-10	2.66E-49	0
3	SD	1.86E+06	2.85E-48	6.92E-23	1.41E+03	8.99E-120	2.99E-17	4.51E-51	3.81E-106	5.59E-47	4.02E-73	3.90E-09	6.89E-49	0
3	ranking	13	7	9	12	2	10	5	3	8	4	11	6	1
	wilcoxon	-	-	-	-	-	-	-	-	-	-	-	-	
	mean	1.80E+02	1.20E-48	2.02E-24	1.47E-04	1.76E-108	1.43E-16	1.61E-40	3.87E-23	7.75E-49	5.87E-77	7.74E-68	2.35E-47	0
	SD	1.75E+02	2.90E-48	3.85E-24	6.72E-05	7.81E-108	6.51E-17	7.19E-40	1.73E-22	3.39E-48	8.93E-77	3.44E-67	1.05E-46	0
4	ranking	13	6	9	12	2	11	8	10	5	3	4	7	1
	wilcoxon	-	-	-	-	-	-	-	-	-	-	-	-	
	mean	2.54E+01	0	0	0	0	0	0	0	0	0	0	0	0
	SD	1.63E+01	0	0	0	0	0	0	0	0	0	0	0	0
5	ranking	13	1	1	1	1	1	1	1	1	1	1	1	1
	wilcoxon	-	=	=	=	=	=	=	=	=	=	=	=	
	mean	3.07E-02	1.81E-03	3.80E-03	3.77E-02	3.27E-04	9.54E-03	1.90E-03	2.69E-03	8.84E-03	4.02E-03	3.68E-03	8.40E-03	2.92E-05
	SD	1.75E-02	9.48E-04	2.23E-03	2.69E-02	2.53E-04	4.02E-03	8.84E-04	1.70E-03	3.09E-03	1.23E-03	1.49E-03	3.36E-03	2.68E-05
6	ranking	12	3	7	13	2	11	4	5	10	8	6	9	1
	wilcoxon	-	+	-	-	-	-	+	+	-	-	-	-	
	mean	9.19E-01	1.99E-26	1.23E-14	1.51E-03	9.71E-62	3.31E-16	6.82E-32	3.95E-47	1.08E-27	1.32E-40	1.39E-08	1.35E-27	0
	SD	2.85E-01	2.32E-26	3.00E-14	4.68E-04	3.47E-61	8.65E-17	2.99E-31	1.74E-46	1.61E-27	1.67E-40	5.82E-08	3.21E-27	0
7	ranking	13	8	10	12	2	9	5	3	6	4	11	7	1
	wilcoxon	-	-	-	- -	l -	-	-	-	-	-	-	-	
	mean	1.26E+01	5.92E-46	7.78E-24	2.20E-05	1.49E-132	1.07E-16	4.30E-51	5.79E-111	1.89E-50	3.01E-74	9.00E-14	1.53E-49	0
8	SD	1.04E+01	1.58E-45	2.25E-23	8.44E-06	6.65E-132	3.64E-17	1.92E-50	1.77E-110	6.23E-50	9.00E-74	2.84E-13	4.60E-49	0
		1	1	I -: 2- 2-0	1 200	I	1	1	1					l

	ranking	13	8	9	12	2	10	5	3	6	4	11	7	1
	wilcoxon	-	-	-	-	-	-	-	-	-	-	-	-	
	mean	9.51E+00	2.36E-05	4.34E-07	3.19E-03	1.41E-41	7.94E-03	7.01E-07	2.71E-03	6.35E-03	7.48E-05	1.49E-01	7.11E-03	0
	SD	3.07E+00	1.03E-04	8.65E-07	8.28E-04	6.32E-41	3.21E-03	1.08E-06	5.18E-03	2.47E-03	3.49E-05	2.76E-01	1.62E-03	0
9	ranking	13	5	3	8	2	11	4	7	9	6	12	10	1
	wilcoxon	-	-	-	-	-	-	-	-	-	-	-	-	
	mean	4.79E+00	1.06E+01	2.79E+00	6.22E+00	0	0	4.97E-02	4.97E-02	0	0	2.05E-01	0	0
10	SD	1.58E+00	3.89E+00	8.67E-01	2.88E+00	0	0	2.22E-01	2.22E-01	0	0	6.32E-01	0	0
10	ranking	11	13	10	12	1	1	7	7	1	1	9	1	1
	wilcoxon	-	-	-	-	=	=	-	-	=	=	-	=	
	mean	1.24E+00	7.38E-02	9.14E-02	2.99E-02	4.19E-02	1.07E-02	1.17E-02	1.34E-02	9.76E-03	8.36E-03	1.18E-02	1.03E-02	8.91E-03
1.1	SD	9.40E-02	6.21E-02	4.56E-02	2.91E-02	2.23E-02	3.83E-03	5.80E-03	1.08E-02	2.65E-03	8.47E-04	8.33E-03	3.39E-03	2.45E-03
11	ranking	13	11	12	9	10	5	6	8	3	1	7	4	2
	wilcoxon	-	-	-	-	-	-	-	-	-	+	-	-	
	mean	2.87E-01	1.57E-32	1.95E-25	2.11E-01	5.01E-03	8.78E-17	1.57E-32	4.11E-21	1.57E-32	1.57E-32	5.86E-06	1.57E-32	1.57E-32
12	SD	2.95E-01	8.21E-48	8.51E-25	1.48E-01	4.82E-03	1.27E-17	2.81E-48	1.84E-20	2.81E-48	2.81E-48	2.62E-05	2.81E-48	2.81E-48
12	ranking	13	1	7	12	11	9	1	8	1	1	10	1	1
	wilcoxon	=	=	-	=	-	-	=	-	=	=	-	=	
	mean	1.07E+01	1.35E-32	4.45E-22	9.50E-06	2.78E+00	1.21E-16	1.35E-32	2.82E-19	1.35E-32	1.35E-32	1.35E-32	1.35E-32	1.35E-32
13	SD	6.60E+00	2.74E-48	1.60E-21	3.43E-06	2.07E+00	4.61E-17	2.81E-48	1.26E-18	2.81E-48	2.81E-48	2.81E-48	2.81E-48	2.81E-48
13	ranking	13	1	8	11	12	10	1	9	1	1	1	1	1
	wilcoxon	-	=	-	-	-	-	=	-	=	=	=	=	
	mean	1.52E+00	9.99E-02	1.25E-01	9.99E-02	2.29E-32	2.65E-01	1.95E-01	2.75E-01	3.00E-01	2.60E-01	1.90E-01	2.80E-01	1.50E-02
14	SD	3.70E-01	1.57E-08	4.33E-02	1.82E-10	1.02E-31	7.45E-02	6.05E-02	9.67E-02	6.49E-02	5.03E-02	5.53E-02	5.23E-02	3.66E-02
14	ranking	13	4	5	3	1	9	7	10	12	8	6	11	2
	wilcoxon	-	-	-	-	+	-	-	-	-	-	-	-	
	mean	2.25E+01	0	1.31E-23	2.58E-05	1.74E+02	1.22E-16	0	3.28E-28	0	0	3.97E-12	0	0
15	SD	1.48E+01	0	5.21E-23	8.07E-06	2.04E+02	6.55E-17	0	1.36E-27	0	0	1.77E-11	0	0
1.5	ranking	12	1	8	11	13	9	1	7	1	1	10	1	1
	wilcoxon	-	=	-	-	-	-	=	-	=	=	-	=	
16	mean	3.95E+03	8.13E-17	4.44E-04	1.25E-04	2.81E+03	2.67E+03	5.31E+02	2.13E+03	1.95E+03	2.21E+03	2.22E+03	2.02E+03	1.44E+03
10	SD	2.02E+03	1.19E-16	1.13E-03	8.67E-05	1.73E+03	1.04E+03	3.97E+02	1.14E+03	9.88E+02	8.01E+02	1.05E+03	1.29E+03	9.19E+02

	ranking	13	1	3	2	12	11	4	8	6	9	10	7	5
	wilcoxon	-	+	+	+	-	-	+	-	-	-	-	-	
	mean	2.42E+03	0.00E+00	3.01E+02	3.91E-01	4.16E+03	4.71E+02	6.77E+01	1.88E+02	4.75E+02	7.07E+02	9.02E+02	6.48E+02	1.00E-01
	SD	1.06E+03	0.00E+00	1.61E+02	2.20E-01	2.15E+03	6.31E+02	1.80E+02	2.61E+02	4.29E+02	6.35E+02	1.82E+03	7.10E+02	1.40E-01
17	ranking	12	1	6	3	13	7	4	5	8	10	11	9	2
	wilcoxon	-	+	-	+	-	-	-	-	-	-	-	-	
	mean	4.97E+00	3.16E-01	2.44E-01	5.69E-02	7.85E+00	2.18E-01	3.31E-01	2.98E-01	1.86E-01	2.86E-01	2.50E-01	2.49E-01	2.32E-01
1.0	SD	3.29E+00	2.07E-01	1.13E-01	1.31E-01	6.50E+00	1.35E-01	2.28E-01	1.84E-01	9.82E-02	3.90E-01	2.32E-01	1.43E-01	1.56E-01
18	ranking	12	10	5	1	13	3	11	9	2	8	7	6	4
	wilcoxon	-	-	-	+	-	+	-	-	+	-	-	-	
	mean	3.12E+01	2.93E+01	1.87E+01	8.06E+00	5.14E+01	3.46E+01	1.95E+01	1.97E+01	3.86E+01	2.36E+01	2.28E+01	3.86E+01	2.00E+01
10	SD	9.10E+00	4.34E+00	6.31E+00	4.56E+00	1.94E+01	8.75E+00	6.60E+00	7.01E+00	9.22E+00	7.25E+00	1.25E+01	1.18E+01	5.41E+00
19	ranking	9	8	2	1	13	10	3	4	12	7	6	11	5
	wilcoxon	-	-	+	+	-	-	3	+	-	-	-	-	
	mean	8.84E+00	5.99E+00	4.24E+00	3.04E+00	7.37E+00	6.29E+00	5.82E+00	6.32E+00	6.17E+00	6.56E+00	5.66E+00	6.45E+00	4.73E+00
20	SD	1.15E+00	2.74E+00	1.05E+00	1.20E+00	1.29E+00	8.19E-01	1.43E+00	8.46E-01	8.07E-01	6.99E-01	8.64E-01	6.00E-01	1.34E+00
20	ranking	13	6	2	1	12	8	5	9	7	11	4	10	3
	wilcoxon	-	-	+	+	-	-	-	-	-	-	-	-	
	mean	3.96E+00	3.48E+00	3.24E+00	3.47E+00	3.69E+00	3.46E+00	3.62E+00	3.33E+00	3.43E+00	3.54E+00	3.44E+00	3.43E+00	3.16E+00
	SD	2.25E-01	2.19E-01	3.26E-01	3.46E-01	3.07E-01	2.50E-01	3.22E-01	2.48E-01	2.88E-01	1.93E-01	3.08E-01	1.72E-01	2.51E-01
21	ranking	13	9	2	8	12	7	11	3	5	10	6	4	1
	wilcoxon	-	-	-	-	-	-	-	-	-	-	-	-	
	mean	1.77E+02	1.52E+02	1.39E+02	1.05E+02	2.43E+02	1.67E+02	1.38E+02	1.42E+02	1.80E+02	1.52E+02	1.56E+02	1.73E+02	1.26E+02
22	SD	2.26E+01	1.41E+01	1.73E+01	1.92E+01	5.35E+01	2.55E+01	2.30E+01	2.18E+01	2.36E+01	2.09E+01	2.05E+01	2.92E+01	1.67E+01
22	ranking	11	6	4	1	13	9	3	5	12	7	8	10	2
	wilcoxon	-	-	-	+	-	-	-	-	-	-	-	-	
	mean	2.02E+02	1.73E+02	1.34E+02	1.03E+02	2.43E+02	1.89E+02	1.45E+02	1.47E+02	1.87E+02	1.71E+02	1.75E+02	1.87E+02	1.39E+02
22	SD	2.66E+01	1.46E+01	2.32E+01	6.63E+00	4.04E+01	2.89E+01	3.05E+01	1.22E+01	2.79E+01	2.22E+01	3.36E+01	2.25E+01	2.09E+01
23	ranking	12	7	2	1	13	11	4	5	10	6	8	9	3
	wilcoxon	-	-	+	+	-	-	-	-	-	-	-	-	
24	mean	9.07E+02	7.81E+02	8.03E+02	7.71E+02	9.50E+02	7.99E+02	8.16E+02	8.03E+02	7.76E+02	7.61E+02	8.07E+02	7.71E+02	7.09E+02
24	SD	8.59E+01	2.44E+01	1.22E+02	2.74E+01	7.18E+01	1.59E+01	6.83E+01	4.45E+01	1.13E+02	1.09E+02	5.49E+01	1.11E+02	1.77E+02

ranking	12	6	9	4	13	7	11	8	5	2	10	3	1	
wilcoxon	-	-	-	-	-	-	-	-	-	-	-	-		

Tab. 2 Comparison results among comparison algorithms on twenty four benchmarks, D=30

		BBO	DE	PSO	Firefly	Firework	ABC	OCABC	ILABC	dABC	distABC	ABCVSS	ABCM	ILTDABC
	mean	1.18E+01	6.04E-48	8.66E-18	2.33E-04	1.60E-312	5.34E-16	1.46E-18	4.61E-07	3.65E-49	1.13E-71	1.39E-66	1.97E-42	0
1	SD	4.37E+00	7.11E-48	1.37E-17	4.78E-05	0	1.00E-16	6.46E-18	2.06E-06	6.55E-49	2.45E-71	4.51E-66	8.19E-42	0
1	ranking	12	5	8	11	13	9	7	10	4	2	3	6	1
	wilcoxon	-	-	-	-	-	-	-	-	-	-	-	-	
	mean	1.21E+04	2.25E-01	1.39E+02	2.85E-01	1.91E-227	6.67E+03	4.29E+03	1.02E+04	6.16E+03	6.05E+03	7.95E+03	4.28E+03	6.66E-45
2	SD	3.53E+03	2.45E-01	6.70E+01	4.82E-01	0	1.45E+03	1.37E+03	2.49E+03	1.19E+03	1.11E+03	1.88E+03	1.16E+03	2.98E-44
2	ranking	13	3	5	4	1	10	7	12	9	8	11	6	2
	wilcoxon	-	-	-	-	+	-	-	-	-	-	-	-	
	mean	1.74E+05	3.09E-47	1.01E-17	5.91E+03	4.04E-303	5.20E-16	1.80E-25	3.04E-102	1.26E-46	5.70E-70	5.18E-08	1.17E-45	0
3	SD	4.53E+05	7.07E-47	1.49E-17	2.42E+03	0	9.99E-17	7.92E-25	6.09E-102	4.02E-46	1.55E-69	2.31E-07	1.91E-45	0
3	ranking	13	5	9	12	2	10	8	3	6	4	11	7	1
	wilcoxon	-	-	-	-	-	-	-	-	-	-	-	-	
	mean	2.06E+02	4.23E-47	8.73E-17	1.25E-02	1.71E-301	5.65E-16	5.44E-18	1.04E-05	2.90E-47	6.04E-70	2.60E-10	3.64E-43	0
4	SD	1.37E+02	5.18E-47	1.54E-16	7.84E-03	0	7.71E-17	2.11E-17	4.65E-05	9.27E-47	1.28E-69	1.16E-09	1.48E-42	0
4	ranking	13	5	8	12	2	9	7	11	4	3	10	6	1
	wilcoxon	-	-	-	-	-	-	-	-	-	-	-	-	
	mean	1.53E+01	0	0	0	0	0	0	0	0	0	0	0	0
5	SD	4.45E+00	0	0	0	0	0	0	0	0	0	0	0	0
	ranking	13	1	1	1	1	1	1	1	1	1	1	1	1
	wilcoxon	-	=	=	=	=	=	=	=	=	=	=	=	
	mean	6.42E-02	5.32E-03	2.27E-02	2.85E-02	1.37E-04	4.38E-02	5.54E-03	1.85E-02	4.57E-02	2.62E-02	2.06E-02	3.77E-02	9.66E-05
6	SD	2.31E-02	1.49E-03	8.67E-03	3.13E-02	1.78E-04	1.05E-02	1.70E-03	4.78E-03	1.03E-02	9.58E-03	9.69E-03	9.14E-03	6.49E-05
	ranking	13	3	7	9	2	11	4	5	12	8	6	10	1
	wilcoxon	-	-	-	-	-	-	-	-	-	-	-	-	
	mean	1.22E+00	1.94E-25	9.44E-13	1.33E-02	5.15E-169	1.22E-15	1.00E-13	1.59E-49	5.47E-27	1.36E-37	7.69E-08	9.72E-25	1.04E-209
7	SD	1.94E-01	1.87E-25	6.87E-13	1.32E-02	0	1.72E-16	4.47E-13	7.04E-49	4.55E-27	2.12E-37	2.40E-07	3.44E-24	0
	ranking	13	6	10	12	2	8	9	3	5	4	11	7	1

	wilcoxon	-	-	-	-	-	-	-	-	-	-	-	-	
	mean	1.02E+01	2.15E-43	2.00E-10	2.49E-04	0	5.82E-16	5.88E-25	9.00E-100	1.76E-48	3.33E-69	4.57E-65	4.44E-44	0
8	SD	3.59E+00	6.46E-43	8.71E-10	4.84E-05	0	9.02E-17	2.63E-24	2.24E-99	2.93E-48	1.05E-68	1.52E-64	1.06E-43	0
8	ranking	13	8	11	12	1	10	9	3	6	4	5	7	2
	wilcoxon	-	-	-	-	=	-	-	-	-	-	-	-	
	mean	1.09E+01	6.72E+00	3.08E+00	2.17E-02	1.36E-104	2.48E+00	1.04E+01	4.53E-01	2.34E+00	6.53E-01	3.73E+00	2.47E+00	1.28E-110
9	SD	1.59E+00	4.84E+00	7.16E-01	8.25E-03	6.08E-104	6.73E-01	6.18E+00	3.25E-01	8.79E-01	1.22E-01	2.43E+00	7.73E-01	5.74E-110
9	ranking	13	11	9	3	2	8	12	4	6	5	10	7	1
	wilcoxon	-	-	-	-	-	-	-	-	-	-	-	-	
	mean	5.48E+00	1.14E+02	2.79E+01	3.14E+01	0	0	3.84E-01	3.42E-04	0	0	0	0	0
10	SD	1.69E+00	2.55E+01	7.01E+00	9.22E+00	0	0	6.90E-01	1.21E-03	0	0	0	0	0
10	ranking	10	13	11	12	1	1	9	8	1	1	1	1	1
	wilcoxon	-	-	-	-	П	=	-	-	=	=	=	=	
	mean	1.11E+00	1	1	1.00E+00	1	1	1	1	1	1	1	1	1
1 1	SD	4.10E-02	2.22E-16	3.48E-16	3.96E-07	5.76E-16	2.24E-16	1.44E-16	4.76E-16	4.87E-16	5.04E-16	4.76E-15	5.21E-16	1.14E-16
11	ranking	13	3	5	12	10	4	1	6	7	8	11	9	1
	wilcoxon	-	-	-	-	-	-	-	-	-	-	-	-	
	mean	1.15E-01	1.58E-32	4.66E-02	8.45E-07	9.61E-02	5.25E-16	1.84E-22	9.92E-31	1.57E-32	1.57E-32	1.46E-06	1.57E-32	1.57E-32
12	SD	1.02E-01	2.81E-34	6.93E-02	2.16E-07	1.72E-01	7.47E-17	6.69E-22	4.36E-30	2.81E-48	2.81E-48	6.53E-06	2.81E-48	2.81E-48
12	ranking	13	1	10	9	11	8	7	6	1	1	12	1	1
	wilcoxon	-	=	-	-	-	-	-	-	=	=	-	=	
	mean	5.19E+00	8.79E+01	3.42E+02	3.08E+02	6.15E+00	5.49E-16	2.09E-18	7.00E-11	1.35E-32	1.35E-32	1.35E-32	1.35E-32	1.35E-32
12	SD	2.68E+00	9.91E+01	2.57E+02	2.89E+02	5.87E+00	9.74E-17	8.33E-18	2.36E-10	2.81E-48	2.81E-48	2.81E-48	2.81E-48	2.81E-48
13	ranking	9	11	13	12	10	8	6	7	1	1	1	1	1
	wilcoxon	-	-	-	-	-	-	-	-	=	=	=	=	
	mean	2.14E+00	1.95E-01	4.35E-01	2.35E-01	2.06E-52	9.85E-01	6.55E-01	9.55E-01	9.86E-01	9.25E-01	8.96E-01	9.40E-01	9.49E-02
14	SD	3.70E-01	1.93E-02	7.26E-02	4.77E-02	9.22E-52	1.39E-01	1.39E-01	2.06E-01	9.91E-02	1.41E-01	5.09E-01	1.47E-01	2.23E-02
14	ranking	13	3	5	4	1	11	6	10	12	8	7	9	2
	wilcoxon	-	-	-	-	+	-	-	-	-	-	-	-	
	mean	1.20E+01	1.14E-28	1.67E-17	2.30E-04	2.29E+03	4.89E-16	2.54E-19	5.72E-19	0	0	0	0	0
15	SD	1.87E+00	1.15E-28	2.18E-17	5.63E-05	1.03E+03	6.67E-17	7.93E-19	1.59E-18	0	0	0	0	0
	ranking	12	6	9	11	13	10	7	8	1	1	1	1	1

	wilcoxon	-	-	-	-	-	-	-	-	=	=	=	=	
	mean	3.82E+04	1.03E+01	4.11E+03	2.23E+03	3.26E+04	4.89E+04	2.71E+04	3.95E+04	4.49E+04	3.86E+04	4.41E+04	4.18E+04	2.73E+04
16	SD	1.13E+04	1.29E+01	2.09E+03	1.85E+03	2.82E+03	6.48E+03	8.98E+03	8.16E+03	8.11E+03	3.55E+03	6.72E+03	9.46E+03	2.09E+03
16	ranking	7	1	3	2	6	13	4	9	12	8	11	10	5
	wilcoxon	-	+	+	+	-	-	+	-	-	-	-	-	
	mean	8.42E+03	4.26E+02	4.84E+03	7.50E+02	1.97E+04	1.23E+04	5.92E+03	9.95E+03	1.22E+04	1.12E+04	1.14E+04	1.29E+04	4.35E+03
17	SD	2.29E+03	2.56E+02	1.44E+03	2.42E+02	2.44E+03	2.15E+03	1.31E+03	1.27E+03	2.75E+03	1.54E+03	1.85E+03	2.13E+03	1.14E+03
17	ranking	6	1	4	2	13	11	5	7	10	8	9	12	3
	wilcoxon	-	+	-	+	-	-	-	-	-	-	-	-	
	mean	3.55E+00	3.94E-03	2.29E-02	3.65E-03	6.81E+01	8.45E-02	7.82E-02	8.41E-01	6.14E-02	3.76E+00	2.39E-01	4.54E-02	3.67E-02
18	SD	1.68E+00	4.83E-03	1.78E-02	7.59E-04	5.32E+01	2.69E-02	9.06E-02	3.87E-01	2.01E-02	1.93E+00	4.56E-01	1.24E-02	1.43E-02
18	ranking	11	2	3	1	13	8	7	10	6	12	9	5	4
	wilcoxon	-	+	+	+	-	-	-	-	-	-	-	-	
	mean	9.44E+01	1.83E+02	1.06E+02	4.33E+01	4.07E+02	3.76E+02	1.07E+02	1.89E+02	3.96E+02	2.41E+02	2.42E+02	3.55E+02	2.39E+02
19	SD	1.38E+01	6.78E+00	4.66E+01	1.19E+01	4.83E+01	4.81E+01	2.44E+01	2.91E+01	4.13E+01	4.84E+01	3.03E+01	7.37E+01	4.55E+01
19	ranking	2	5	3	1	13	11	4	6	12	8	9	10	7
	wilcoxon	+	+	+	+	-	-	+	+	-	-	-	=	
	mean	3.39E+01	4.07E+01	2.78E+01	1.62E+01	3.41E+01	3.07E+01	2.90E+01	3.03E+01	2.97E+01	2.90E+01	2.89E+01	3.05E+01	2.80E+01
20	SD	3.42E+00	8.37E-01	2.98E+00	1.62E+00	3.95E+00	1.55E+00	3.67E+00	1.51E+00	1.97E+00	2.71E+00	1.58E+00	1.85E+00	2.09E+00
20	ranking	11	13	2	1	12	10	5	8	7	6	4	9	3
	wilcoxon	-	-	+	+	-	-	-	-	-	-	-	-	
	mean	1.35E+01	1.34E+01	1.32E+01	1.23E+01	1.34E+01	1.31E+01	1.33E+01	1.29E+01	1.32E+01	1.31E+01	1.30E+01	1.32E+01	1.29E+01
21	SD	2.75E-01	2.74E-01	2.86E-01	4.59E-01	2.32E-01	3.38E-01	3.74E-01	2.82E-01	1.53E-01	1.89E-01	2.81E-01	1.33E-01	3.54E-01
21	ranking	13	12	7	1	11	6	10	3	9	5	4	8	2
	wilcoxon	-	-	-	+	-	-	-	-	-	-	-	-	
	mean	2.82E+02	2.13E+02	2.15E+02	2.00E+02	4.64E+02	3.43E+02	1.66E+02	2.66E+02	3.39E+02	2.94E+02	2.66E+02	3.52E+02	2.49E+02
22	SD	1.69E+02	2.08E+01	1.25E+02	1.99E+02	1.00E+02	3.89E+01	3.43E+01	4.95E+01	6.21E+01	5.94E+01	8.29E+01	4.53E+01	5.99E+01
	ranking	8	3	4	2	13	11	1	7	10	9	6	12	5
	wilcoxon	-	+	+	+	-	-	+	-	-	-	-	-	
	mean	3.75E+02	2.65E+02	3.64E+02	1.40E+02	5.11E+02	3.99E+02	1.64E+02	3.02E+02	4.29E+02	3.72E+02	3.57E+02	4.21E+02	2.63E+02
23	SD	1.68E+02	6.62E+01	1.04E+02	1.87E+02	9.99E+01	6.96E+01	5.78E+01	4.37E+01	3.86E+01	4.23E+01	9.13E+01	4.24E+01	4.41E+01
	ranking	9	4	7	1	13	10	2	5	12	8	6	11	3

	wilcoxon	-	-	-	+	-	-	+	-	-	-	-	-	
	mean	1.04E+03	8.89E+02	5.24E+02	8.82E+02	1.26E+03	1.11E+03	9.99E+02	1.07E+03	1.11E+03	1.13E+03	1.06E+03	1.09E+03	9.65E+02
24	SD	4.59E+01	1.86E+01	6.52E+00	9.60E+00	6.23E+01	3.28E+01	2.42E+01	4.36E+01	3.85E+01	3.95E+01	3.31E+01	3.03E+01	1.54E+01
24	ranking	6	3	1	2	13	10	5	8	11	12	7	9	4
	wilcoxon	-	+	+	+	-	-	-	-	-	-	-	-	

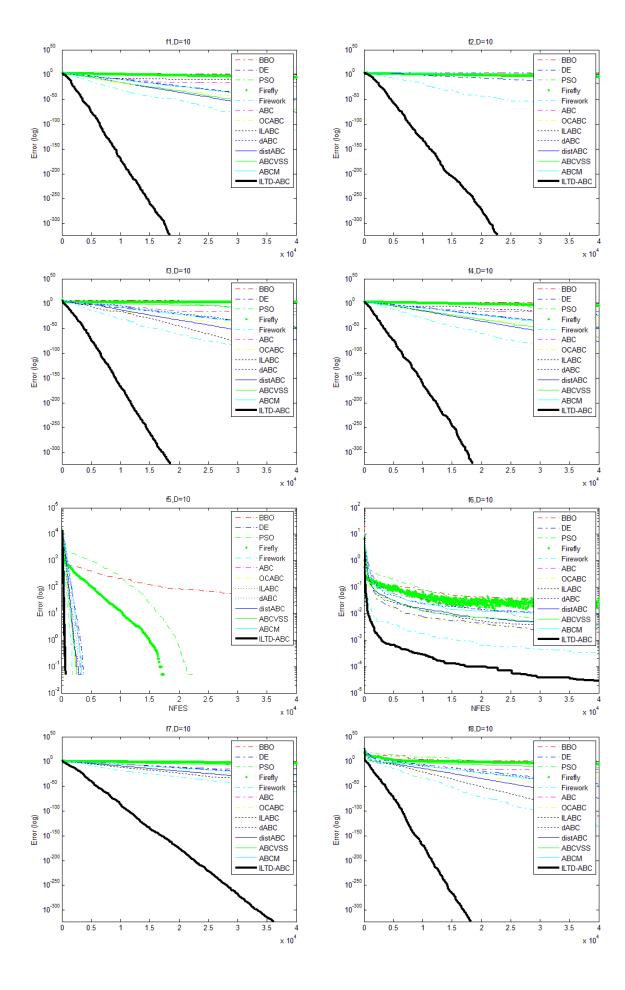
Tab. 3 Comparison results among comparison algorithms on twenty four benchmarks, D=50

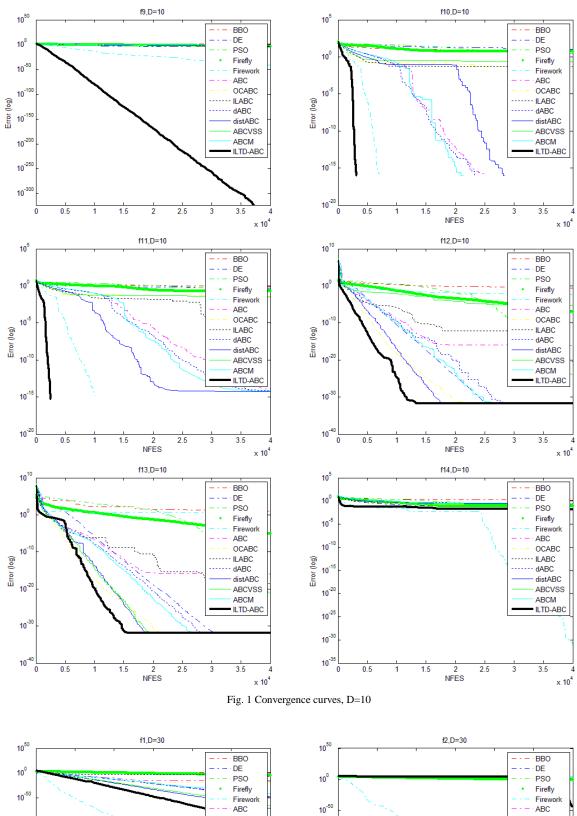
		BBO	DE	PSO	Firefly	Firework	ABC	OCABC	ILABC	dABC	distABC	ABCVSS	ABCM	ILTDABC
	mean	1.01E+01	1.12E-48	9.51E-13	6.62E-04	0	9.69E-16	1.08E-08	7.84E-05	1.13E-48	4.60E-70	5.92E-44	8.09E-43	0
1	SD	3.16E+00	2.50E-48	3.06E-12	1.00E-04	0	1.10E-16	4.82E-08	3.49E-04	1.69E-48	5.21E-70	2.65E-43	3.04E-42	0
1	ranking	13	4	9	12	1	8	10	11	5	3	6	7	1
	wilcoxon	-	-	-	-	=	-	-	-	-	-	-	-	
	mean	2.84E+04	4.06E+02	5.59E+03	5.65E+01	0	2.14E+04	2.22E+04	2.91E+04	2.13E+04	2.11E+04	2.54E+04	1.88E+04	2.82E+03
2	SD	5.86E+03	1.95E+02	2.35E+03	3.22E+01	0	3.19E+03	2.85E+03	4.27E+03	2.51E+03	2.63E+03	3.36E+03	2.27E+03	9.19E+03
2	ranking	12	3	5	2	1	9	10	13	8	7	11	6	4
	wilcoxon	-	-	-	+	+	-	-	-	-	-	-	-	
	mean	3.46E+05	1.41E-48	3.51E-13	9.80E+03	0	9.84E-16	4.82E-09	1.45E-99	1.22E-42	6.22E-69	1.70E-08	7.56E-43	0
3	SD	1.01E+06	2.16E-48	7.57E-13	2.43E+03	0	1.12E-16	2.13E-08	3.73E-99	5.07E-42	1.11E-68	7.58E-08	2.36E-42	0
3	ranking	13	5	9	12	1	8	10	3	7	4	11	6	1
	wilcoxon	-	-	-	-	=	-	-	-	-	-	-	-	
	mean	2.23E+02	3.66E-47	2.69E-12	1.40E-01	0	1.01E-15	1.86E-06	1.20E-05	2.40E-45	6.20E-68	4.21E-09	2.04E-39	0
4	SD	6.47E+01	5.64E-47	2.68E-12	1.01E-01	0	1.31E-16	6.86E-06	5.36E-05	5.88E-45	9.14E-68	1.88E-08	8.92E-39	0
4	ranking	13	4	8	12	1	7	10	11	5	3	9	6	1
	wilcoxon	-	-	-	-	=	-	-	-	-	-	-	-	
	mean	1.03E+01	0	1.50E-01	0	0	0	0	0	0	0	0	0	0
5	SD	3.14E+00	0	3.57E-01	0	0	0	0	0	0	0	0	0	0
	ranking	13	1	12	1	1	1	1	1	1	1	1	1	1
	wilcoxon	-	=	-	=	=	=	=	=	=	=	=	=	
	mean	1.03E-01	1.16E-02	6.62E-02	2.78E-02	6.96E-05	8.20E-02	7.45E-03	3.42E-02	8.11E-02	5.13E-02	6.18E-02	8.15E-02	5.50E-05
6	SD	2.19E-02	5.03E-03	1.89E-02	1.91E-02	5.78E-05	1.47E-02	2.53E-03	7.84E-03	1.25E-02	8.88E-03	5.00E-02	1.43E-02	4.92E-05
	ranking	13	4	9	5	2	12	3	6	10	7	8	11	1
	wilcoxon	-	-	-	-	-	-	-	-	-	-	-	-	

	mean	1.47E+00	4.05E-27	3.96E-10	6.99E-02	1.21E-286	2.33E-15	2.00E-06	2.20E-47	2.82E-26	9.59E-37	8.79E-08	1.23E-22	6.06E-319
	SD	2.32E-01	3.44E-27	3.78E-10	5.78E-02	0	1.74E-16	8.72E-06	9.68E-47	1.83E-26	1.01E-36	3.93E-07	2.93E-22	0
7	ranking	13	5	9	12	2	8	11	3	6	4	10	7	1
	wilcoxon	-	-	-	-	-	-	-	-	-	-	-	-	
	mean	9.67E+00	5.44E-45	8.24E+04	6.09E-04	0	1.02E-15	6.35E-03	2.22E-80	1.28E-47	3.95E-68	3.04E-11	9.59E-41	0
8	SD	3.03E+00	2.22E-44	8.89E+04	9.47E-05	0	1.57E-16	2.84E-02	9.93E-80	1.72E-47	6.98E-68	1.36E-10	3.23E-40	0
8	ranking	12	6	13	10	1	8	11	3	5	4	9	7	1
	wilcoxon	-	-	-	-	=	-	-	-	-	-	-	-	
	mean	1.23E+01	2.34E+01	2.17E+01	5.22E-02	2.84E-176	1.08E+01	2.66E+01	2.14E+00	1.03E+01	4.76E+00	9.97E+00	1.09E+01	6.37E-160
9	SD	2.19E+00	6.19E+00	2.91E+00	1.22E-02	0	2.33E+00	5.61E+00	8.52E-01	1.94E+00	6.30E-01	3.28E+00	2.07E+00	2.65E-159
9	ranking	10	12	11	3	1	8	13	4	7	5	6	9	2
	wilcoxon	-	-	-	-	=	-	-	-	-	-	-	-	
	mean	4.41E+00	1.37E+02	6.82E+01	6.99E+01	0	0	7.81E-01	3.26E-02	0	0	0	0	0
10	SD	1.20E+00	5.51E+01	1.34E+01	1.74E+01	0	0	9.41E-01	1.45E-01	0	0	0	0	0
10	ranking	10	13	11	12	1	1	9	8	1	1	1	1	1
	wilcoxon	-	-	-	-	=	=	-	-	=	=	=	=	
	mean	1.09E+00	1	1	1.00E+00	1	1	1	1.00E+00	1	1	1	1	1
11	SD	2.63E-02	3.91E-16	9.01E-15	8.02E-07	0	3.10E-16	3.04E-08	4.02E-05	4.38E-16	3.34E-16	5.43E-12	3.38E-16	0
11	ranking	13	6	8	11	1	3	10	12	7	4	9	5	1
	wilcoxon	-	-	-	-	=	-	-	-	-	-	-	-	
	mean	3.69E-02	5.18E-03	2.82E-01	2.36E-06	7.85E-02	9.51E-16	5.18E-03	1.45E-07	1.57E-32	1.57E-32	1.57E-32	1.57E-32	1.57E-32
12	SD	2.16E-02	2.26E-02	6.38E-01	4.00E-07	9.67E-02	1.55E-16	2.32E-02	6.50E-07	2.81E-48	2.81E-48	2.81E-48	2.81E-48	2.81E-48
12	ranking	11	9	13	8	12	6	10	7	1	1	1	1	1
	wilcoxon	-	-	-	-	-	-	-	-	=	=	=	=	
	mean	4.25E+00	6.27E+02	1.44E+03	1.27E+03	7.73E+00	1.09E-15	3.83E-14	3.14E-04	1.35E-32	1.35E-32	2.50E+01	1.35E-32	1.35E-32
13	SD	1.12E+00	2.74E+02	3.16E+02	3.36E+02	7.02E+00	1.48E-16	1.71E-13	1.26E-03	2.81E-48	2.81E-48	1.12E+02	2.81E-48	2.81E-48
13	ranking	8	11	13	12	9	5	6	7	1	1	10	1	1
	wilcoxon	-	-	-		-	-	-	-	=	=	-	=	
	mean	2.91E+00	2.25E-01	8.10E-01	4.25E-01	0	1.64E+00	9.90E-01	1.59E+00	1.68E+00	1.58E+00	1.68E+00	1.68E+00	9.99E-02
14	SD	4.06E-01	4.32E-02	9.42E-02	6.22E-02	0	1.82E-01	3.67E-01	2.05E-01	1.86E-01	2.31E-01	8.31E-01	1.99E-01	4.18E-17
	ranking	13	3	5	4	1	9	6	8	11	7	12	10	2
	wilcoxon	-	-	-		+	-	-	-	-	-	-	-	

	mean	1.05E+01	9.92E-28	6.72E-14	6.66E-04	1.21E+04	1.04E-15	1.69E-08	3.78E-03	0	0	0	0	2.52E-29
	SD	3.00E+00	8.71E-28	5.53E-14	1.25E-04	5.70E+03	1.17E-16	5.33E-08	1.20E-02	0	0	0	0	6.41E-29
15	ranking	12	6	8	10	13	7	9	11	1	1	1	1	5
	wilcoxon	-	-	-		-	-	-	-	+	+	+	+	
	mean	8.62E+04	4.73E+03	5.64E+04	1.56E+04	7.77E+04	1.21E+05	8.78E+04	1.05E+05	1.06E+05	1.03E+05	1.06E+05	1.17E+05	4.77E+04
1.6	SD	1.78E+04	1.69E+03	1.39E+04	4.35E+03	9.82E+03	1.75E+04	2.09E+04	1.23E+04	1.66E+04	1.39E+04	1.27E+04	1.75E+04	5.35E+03
16	ranking	6	1	4	2	5	13	7	9	11	8	10	12	3
	wilcoxon	-	+	-		-	-	-	-	-	-	-	-	
	mean	1.44E+04	2.83E+03	1.17E+04	2.17E+03	2.84E+04	2.76E+04	1.59E+04	2.36E+04	2.66E+04	2.41E+04	2.60E+04	2.72E+04	1.72E+04
17	SD	1.28E+03	8.02E+02	2.10E+03	4.97E+02	2.72E+03	3.43E+03	3.74E+03	2.75E+03	3.13E+03	2.36E+03	3.06E+03	2.68E+03	1.94E+03
17	ranking	4	2	3	1	13	12	5	7	10	8	9	11	6
	wilcoxon	+	+	+		-	-	+	-	-	-	-	-	
	mean	3.47E+00	9.35E-03	1.51E-01	5.75E-03	1.56E+02	4.89E-02	3.93E-01	1.17E+00	3.49E-02	1.23E+01	2.87E-02	2.95E-02	2.65E-02
18	SD	1.03E+00	1.04E-02	9.22E-02	1.05E-03	1.13E+02	9.37E-03	3.60E-01	1.36E-01	1.11E-02	6.08E+00	1.39E-02	1.16E-02	1.75E-02
16	ranking	11	2	8	1	13	7	9	10	6	12	4	5	3
	wilcoxon	=	+	-		=	=	=	-	-	-	-	=	
	mean	1.56E+02	3.63E+02	2.89E+02	5.56E+01	8.97E+02	1.13E+03	1.65E+02	5.30E+02	1.12E+03	7.68E+02	6.78E+02	1.11E+03	7.39E+02
19	SD	2.44E+01	1.28E+01	8.51E+01	9.71E+00	5.52E+01	1.33E+02	4.02E+01	6.97E+01	1.31E+02	9.46E+01	6.39E+01	1.05E+02	1.07E+02
19	ranking	2	5	4	1	10	13	3	6	12	9	7	11	8
	wilcoxon	+	+	+		-	-	+	+	-	-	+	-	
	mean	6.36E+01	7.42E+01	5.85E+01	3.80E+01	6.63E+01	6.07E+01	5.37E+01	5.56E+01	5.96E+01	5.80E+01	5.78E+01	5.93E+01	5.52E+01
20	SD	6.53E+00	9.66E-01	3.55E+00	4.86E+00	4.04E+00	2.59E+00	5.56E+00	2.63E+00	2.69E+00	4.63E+00	2.78E+00	2.02E+00	2.90E+00
20	ranking	11	13	7	1	12	10	2	4	9	6	5	8	3
	wilcoxon	-	-	-	+	-	-	+	-	-	-	-	-	
	mean	2.30E+01	2.34E+01	2.30E+01	2.21E+01	2.26E+01	2.28E+01	2.30E+01	2.27E+01	2.29E+01	2.28E+01	2.29E+01	2.30E+01	2.21E+01
21	SD	2.46E-01	9.23E-02	3.33E-01	4.39E-01	4.06E-01	3.46E-01	4.81E-01	2.49E-01	2.82E-01	1.53E-01	1.93E-01	2.30E-01	5.31E-01
21	ranking	9	13	10	2	3	5	11	4	7	6	8	12	1
	wilcoxon	-	-	-	-	-	-	-	-	-	-	-	-	
	mean	1.74E+02	2.75E+02	2.72E+02	2.18E+02	6.33E+02	4.00E+02	1.71E+02	3.49E+02	3.97E+02	3.88E+02	3.59E+02	4.02E+02	3.86E+02
22	SD	1.26E+02	2.60E+01	1.08E+02	1.53E+02	9.84E+01	2.62E+00	8.96E+01	5.00E+01	1.46E+01	1.95E+01	3.83E+01	2.52E+00	2.35E+01
22	ranking	2	5	4	3	13	11	1	6	10	9	7	12	8
	wilcoxon	+	+	+	+	-	-	+	+	-	-	+	-	

	mean	2.68E+02	2.84E+02	3.61E+02	1.13E+02	6.31E+02	4.85E+02	1.64E+02	4.19E+02	4.90E+02	4.78E+02	4.74E+02	4.88E+02	4.29E+02
22	SD	1.05E+02	7.09E+00	9.27E+01	1.21E+02	1.28E+02	1.32E+01	3.19E+01	5.70E+01	8.95E+00	3.19E+01	9.25E+01	1.69E+01	5.07E+01
23	ranking	3	4	5	1	13	10	2	6	12	9	8	11	7
	wilcoxon	+	+	+	+	-	-	+	+	-	-	-	-	
	mean	1.09E+03	9.12E+02	5.00E+02	9.19E+02	1.41E+03	1.18E+03	9.75E+02	1.10E+03	1.21E+03	1.16E+03	1.07E+03	1.21E+03	1.01E+03
24	SD	3.47E+01	1.75E+01	2.48E-01	1.87E+01	7.02E+01	3.48E+01	2.49E+01	3.24E+01	5.36E+01	4.19E+01	2.68E+01	4.07E+01	1.52E+01
24	ranking	7	2	1	3	13	10	4	8	12	9	6	11	5
	wilcoxon	-	+	+	+	-	-	+	-	-	-	-	-	





10<sup>-50</sup> OCABC OCABC 10<sup>-1</sup> Error (log) ILABC ILABC Error (log) 10<sup>-100</sup> dABC dABC 10<sup>-150</sup> distABC distABC ABCVSS ABCVSS ABCM ILTD-ABC 10<sup>-200</sup> ABCM ILTD-ABC 10<sup>-150</sup>

10

12

x 10<sup>4</sup>

10<sup>-200</sup>

10<sup>-250</sup>

10

NFES

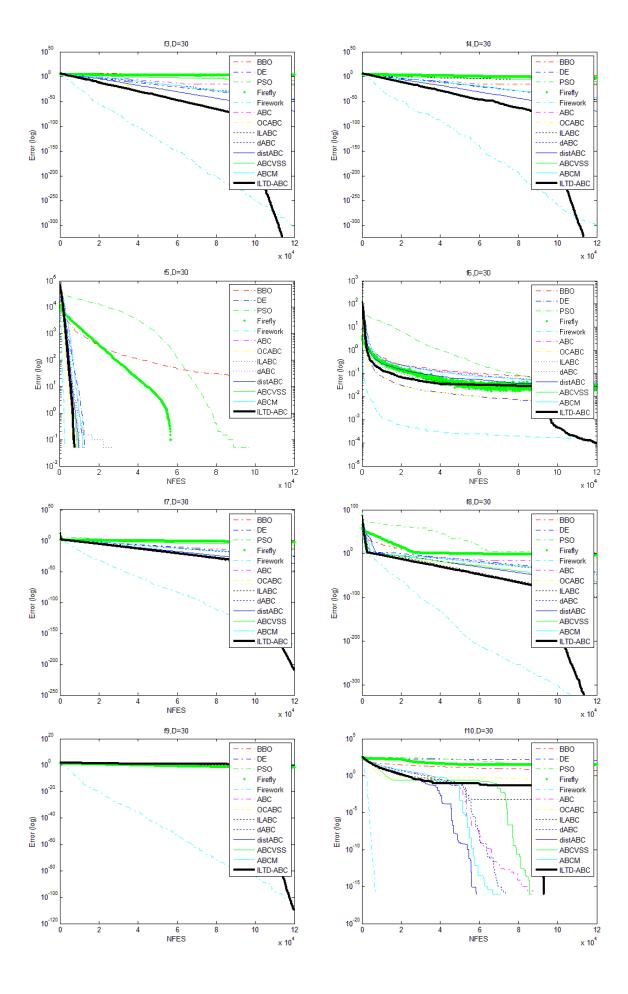
12

x 10<sup>4</sup>

10<sup>-250</sup>

10<sup>-300</sup>

0



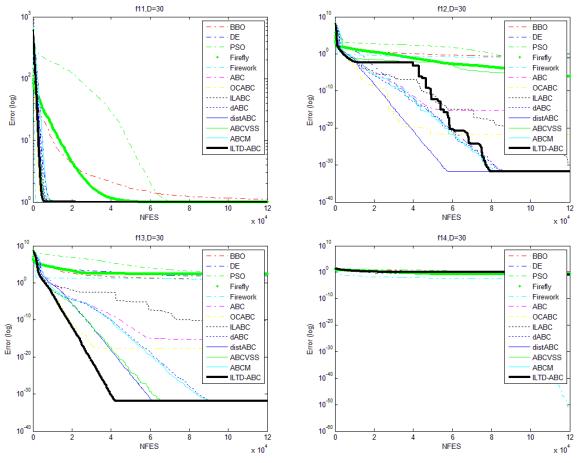
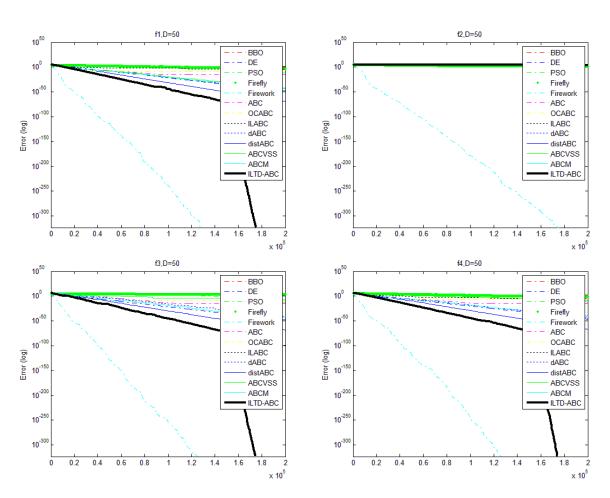
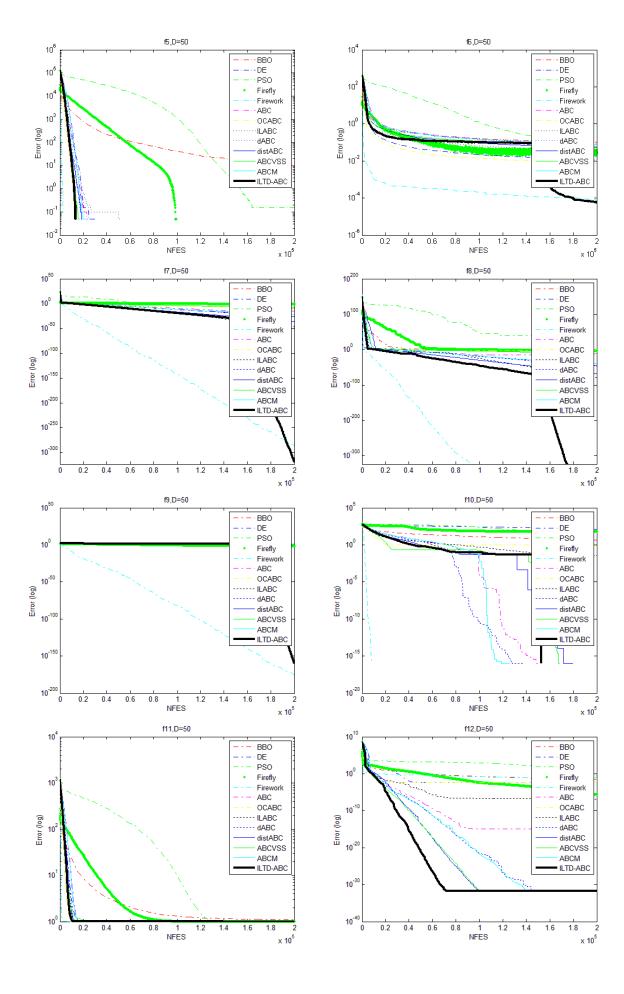


Fig. 2 Convergence curves, D=30





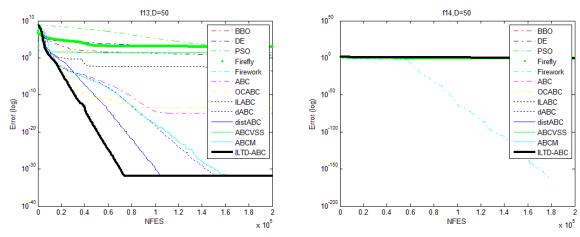


Fig. 3 Convergence curves, D=50

Tab. 4 Computation time comparison among twelve algorithms on some representative benchmarks (s)

Fun	BBO	DE	PSO	Firefly	Firework	ABC	OCABC	ILABC	dABC	distABC	ABCVSS	ABCM	ILTD_ABC
1	2.2121	1.2609	1.1773	3.425	44.7310	2.3500	2.3640	3.0855	2.5421	2.4056	3.3492	4.1004	3.4434
2	2.5647	1.9691	1.5750	3.2394	34.9569	1.6981	1.5332	2.0705	1.9454	1.7566	2.7187	2.8943	2.4445
3	1.6601	1.1213	0.9032	3.315	28.3099	1.6059	1.4513	2.0396	1.6772	1.7090	2.3559	2.8868	2.3366
4	1.6565	1.1272	0.8972	3.5404	29.0784	1.6112	1.6092	2.0407	1.6852	1.6926	2.3673	2.8939	2.7738
5	1.7083	1.3962	0.8977	2.6364	40.6326	2.0746	1.9294	2.5996	2.7546	1.9295	2.9940	3.1931	3.0352
6	2.2874	1.6416	1.4029	3.6231	38.4434	1.7765	1.6275	2.2158	1.8239	1.8607	2.5471	3.0742	2.9620
7	1.7472	1.3215	0.9639	3.5857	30.4564	1.7073	1.5751	2.1640	1.7821	1.8027	2.4935	3.1254	2.5655
8	2.2350	1.5893	1.2139	3.4032	36.6939	2.1531	1.5817	2.1791	2.3552	1.8372	3.2914	3.4370	2.9768
9	2.1038	1.6508	1.3205	3.7401	33.8031	1.8867	1.6871	2.1026	1.7573	1.7746	2.8442	3.3127	2.9502
10	1.7937	1.1257	0.9986	3.432	32.2447	1.7032	1.5302	2.1292	1.9062	1.8100	2.6134	2.9354	2.4419
11	2.1551	1.2294	1.0171	3.4102	31.2553	1.7764	1.6969	2.1371	1.7927	1.7894	2.4711	2.9095	2.5242
12	2.0468	1.6061	1.2803	3.4843	28.6850	2.0178	1.8322	2.4119	2.0739	2.0729	2.7396	3.2252	2.8012
13	1.9846	1.5778	1.2596	3.4546	28.3791	1.9553	1.9834	2.5465	2.0381	2.0307	2.6927	3.2465	2.7399
14	1.7387	1.0928	0.9608	3.3743	28.5868	1.6677	1.5135	2.0809	1.7400	1.7481	2.4283	2.8067	2.4540
15	65.9705	57.8944	51.0175	53.4298	93.8465	53.7497	51.6109	50.1108	49.1430	48.8745	50.0928	49.3406	48.4503
18	67.1654	66.1871	66.4211	71.4345	100.8015	74.4465	72.4168	72.5661	72.5388	70.3166	73.6892	74.1585	72.9861
21	75.1384	75.2957	72.7101	75.4723	110.2066	73.1695	72.8295	73.7483	73.3918	73.1724	73.9963	73.8570	74.0701

Tab. 5 The mean value of twelve algorithms on some representative benchmarks in 2 seconds

Fun	BBO	DE	PSO	Firefly	Firework	ABC	OCABC	ILABC	dABC	distABC	ABCVSS	ABCM	ILTD_ABC
1	2.86E+01	5.77E-51	1.20E-26	2.14E-02	8.64E-22	1.96E-16	1.93E-60	7.59E-72	1.04E-54	5.22E-79	1.21E-80	8.51E-52	0
2	1.17E+03	1.19E-18	1.60E-07	3.44E-02	1.46E-14	5.39E+01	1.28E+00	2.95E+02	5.90E+00	6.32E+01	2.98E+02	4.09E+01	0
3	8.21E+05	2.89E-50	4.43E-24	1.75E+03	1.64E-20	5.12E-17	1.19E-58	1.85E-111	6.30E-52	5.49E-73	5.23E-85	5.26E-51	0
4	1.06E+02	4.66E-50	1.11E-26	2.44E-01	1.13E-16	1.05E-16	9.30E-51	1.55E-68	2.77E-53	7.95E-77	5.65E-16	6.49E-50	0
5	3.39E+01	0	0	0	0	0	0	0	0	0	0	0	0
6	2.99E-02	1.70E-03	3.83E-03	5.79E-03	1.02E-03	1.13E-02	2.60E-03	2.69E-03	5.48E-03	1.92E-03	5.69E-03	9.56E-03	1.21E-05
7	9.67E-01	8.85E-26	4.91E-15	6.42E-02	3.37E-10	3.18E-16	1.10E-32	6.33E-59	1.64E-28	9.76E-41	5.82E-45	4.23E-28	0
8	2.07E+01	9.85E-47	6.49E-27	3.37E-02	1.60E-15	1.06E-16	8.87E-59	9.11E-114	1.54E-53	7.19E-76	2.65E-88	2.68E-49	0
9	8.53E+00	1.47E-16	1.67E-07	7.68E-02	1.96E-07	2.36E-03	2.18E-07	1.58E-06	4.42E-03	4.86E-05	8.18E-05	6.08E-03	0
10	5.71E+00	1.59E+01	2.03E+00	7.97E+00	0	0	0	0	0	0	0	0	0
11	1.16E+00	1.25E-01	8.99E-02	7.34E-02	8.43E-01	7.82E-03	1.60E-02	1.12E-02	7.82E-03	7.82E-03	7.82E-03	7.82E-03	7.82E-03
12	2.23E-01	1.57E-32	6.14E-30	2.03E-04	3.71E-02	1.69E-16	1.57E-32	1.57E-32	1.57E-32	1.57E-32	1.57E-32	1.57E-32	1.57E-32
13	1.20E+01	1.35E-32	2.48E-26	1.45E-02	5.31E+00	9.54E-17	1.35E-32	1.35E-32	1.35E-32	1.35E-32	1.35E-32	1.35E-32	1.35E-32

14 1.75E+00 9.99E-02 9.99E-02 9.99E-02 5.77E-02 3.00E-01 2.00E-01 3.00E-01 9.99E-02 3.00E-01	3.00E-01	0
--	----------	---