

Table 1: HV. Mean and standard deviation

Obj.	problem	HHCOR2LPNORM	HHCOR2MINMAX	HHCOR2SDE	HHCORandomLPNORM	HHCORandomMINMAX	HHCORandomSDE	HHLA
5	MaF01	1.2E-2(2.26E-4)	1.16E-2(6.36E-4)	1.24E-2(1.52E-4)	1.19E-2(1.1E-4)	1.15E-2(4.93E-4)	1.25E-2(1.48E-4)	1.7E-3(1.4E-4)
	MaF02	2.01E-1(1.45E-3)	1.93E-1(5.19E-3)	2.02E-1(1.14E-3)	1.96E-1(1.89E-3)	1.93E-1(3.14E-3)	2.01E-1(1.52E-3)	3.12E-1(1.52E-3)
	MaF03	0E0(0E0)	4.57E-2(2.03E-1)	5.05E-2(2.17E-1)	9.99E-1(2.22E-4)	9.98E-1(6.66E-4)	9.98E-1(8.11E-4)	7.48E-1(4E-4)
	MaF04	1.11E-1(3.47E-3)	9.81E-2(9.55E-3)	1.08E-1(2.83E-3)	1.1E-1(2.1E-3)	9.87E-2(6.93E-3)	1.06E-1(2.35E-3)	4.19E-2(1E-3)
	MaF05	7.69E-1(4.51E-3)	7.58E-1(1.34E-2)	7.77E-1(6.17E-3)	7.68E-1(4.77E-3)	7.81E-1(7.87E-3)	7.8E-1(5.54E-3)	6.54E-1(7E-3)
	MaF06	1.3E-1(3.64E-4)	1.3E-1(3.9E-4)	1.3E-1(3.31E-4)	1.3E-1(3.55E-4)	1.3E-1(7.29E-4)	1.29E-1(4.15E-4)	2.85E-2(7E-3)
	MaF07	2.58E-1(1.83E-3)	2.51E-1(6.07E-3)	2.74E-1(1.61E-3)	2.57E-1(3.06E-3)	2.5E-1(5.85E-3)	2.73E-1(1.75E-3)	7.16E-2(1E-3)
	MaF08	1.25E-1(4.04E-4)	1.23E-1(1.47E-3)	1.27E-1(3.68E-4)	1.25E-1(4.92E-4)	1.24E-1(4.99E-4)	1.27E-1(3.86E-4)	6.77E-2(7E-3)
	MaF09	3.24E-1(2.62E-3)	3.21E-1(2.84E-3)	3.26E-1(1.41E-3)	3.23E-1(1.6E-3)	3.21E-1(1.88E-3)	3.26E-1(7.49E-4)	2.33E-1(9E-3)
	MaF10	7.31E-1(3.26E-2)	7.25E-1(3.48E-2)	7.3E-1(3.28E-2)	9.28E-1(1.91E-2)	9.26E-1(1.99E-2)	9.27E-1(2.03E-2)	8.84E-1(9E-3)
	MaF11	9.91E-1(1.02E-3)	9.91E-1(1.19E-3)	9.88E-1(1.8E-3)	9.96E-1(6.25E-4)	9.96E-1(5.31E-4)	9.94E-1(7.94E-4)	8.81E-1(1E-3)
	MaF12	7.5E-1(4.68E-3)	7.25E-1(1.52E-2)	7.59E-1(5.83E-3)	7.45E-1(2.93E-3)	7.27E-1(9.65E-3)	7.51E-1(4.29E-3)	5.87E-1(6E-3)
	MaF13	2.91E-1(4.08E-3)	2.87E-1(5.81E-3)	2.99E-1(3.86E-3)	2.97E-1(1.86E-3)	2.9E-1(2.84E-3)	3.06E-1(1.38E-3)	2.19E-1(1E-3)
	MaF14	3.7E-1(1.51E-1)	5.67E-1(7.6E-2)	6.42E-1(7.6E-2)	4.61E-1(9.68E-2)	5.05E-1(8.45E-2)	6.14E-1(1.01E-1)	4.98E-1(8E-3)
	MaF15	6.21E-4(1.6E-3)	1.54E-2(8.11E-3)	2.88E-2(1.12E-2)	8.64E-3(3.7E-3)	1.06E-2(8.23E-3)	5.46E-2(6.06E-3)	2.04E-2(1E-3)
10	MaF01	5.5E-7(8.26E-7)	3E-7(4.7E-7)	5.5E-7(7.59E-7)	3.5E-7(4.89E-7)	1E-7(3.08E-7)	1E-7(3.08E-7)	1.04E-1(2E-3)
	MaF02	2.08E-1(2.63E-3)	2.07E-1(5.3E-3)	2.17E-1(3E-3)	2.03E-1(3.23E-3)	2.01E-1(7.39E-3)	2.16E-1(2.47E-3)	2.26E0(2.2E-3)
	MaF03	0E0(0E0)	1.34E-2(6E-2)	2.04E-2(6.62E-2)	7.04E-1(3.41E-1)	1E0(8.27E-5)	1E0(2.14E-6)	1.54E0(1E-3)
	MaF04	1.7E-4(2.6E-5)	9.37E-5(4.4E-5)	1.5E-5(1.75E-5)	1.75E-4(2.58E-5)	8.47E-5(4.92E-5)	1.53E-5(1.41E-5)	2.55E-1(3E-3)
	MaF05	7.4E-1(3.19E-2)	4.6E-1(1.54E-1)	9.23E-1(7.56E-3)	7.69E-1(2.23E-2)	6.29E-1(1.57E-1)	9.32E-1(6.3E-3)	2.38E0(5E-3)
	MaF06	1.4E-2(3.13E-2)	1.68E-2(3.5E-2)	1.6E-2(3.36E-2)	9.25E-2(3.73E-3)	9.69E-2(3.35E-3)	9.32E-2(3.19E-3)	1.17E0(6E-3)
	MaF07	8.6E-2(1.8E-2)	7.09E-2(3.17E-2)	4.4E-2(1.08E-2)	9.18E-2(1.14E-2)	8.18E-2(2.67E-2)	4.8E-2(1.33E-2)	1.16E0(6E-3)
	MaF08	1.06E-2(1.08E-4)	1.05E-2(1.48E-4)	1.1E-2(1.02E-4)	1.06E-2(9.48E-5)	1.05E-2(1.08E-4)	1.1E-2(8.55E-5)	7.61E-1(3E-3)
	MaF09	5.96E-4(2.66E-4)	9.64E-3(6.23E-3)	1.82E-2(6.2E-4)	9.32E-4(1.13E-4)	1.88E-3(1.05E-3)	1.84E-2(4.25E-4)	7.15E-1(3E-3)
	MaF10	6.54E-1(7.4E-2)	6.51E-1(7.48E-2)	6.53E-1(7.4E-2)	9.16E-1(5.25E-2)	9.14E-1(5.34E-2)	9.14E-1(5.32E-2)	2.59E0(2E-3)
	MaF11	9.99E-1(3.5E-4)	9.98E-1(4.05E-4)	9.98E-1(4.72E-4)	9.99E-1(2.32E-4)	9.99E-1(3.23E-4)	9.99E-1(2.91E-4)	2.59E0(5E-3)
	MaF12	7.77E-1(3.69E-2)	7.81E-1(3.91E-2)	8.41E-1(3.21E-2)	7.58E-1(2.98E-2)	7.98E-1(2.56E-2)	8.46E-1(2E-2)	2.42E0(1E-3)
	MaF13	1.39E-1(1.59E-3)	1.34E-1(3.81E-3)	1.43E-1(1.29E-3)	1.39E-1(2.04E-3)	1.3E-1(3.91E-3)	1.44E-1(1.76E-3)	1.43E0(3E-3)
	MaF14	2.19E-1(1.54E-1)	5.12E-1(1.12E-1)	3.92E-1(1.87E-1)	2.5E-1(1.4E-1)	4.6E-1(9.19E-2)	6.9E-1(9.51E-2)	1.45E0(8E-3)
	MaF15	0E0(0E0)	1E-7(4.47E-7)	6.05E-6(3.82E-6)	0E0(0E0)	0E0(0E0)	1.28E-5(5.46E-6)	7.55E-2(3E-3)
15	MaF01	0E0(0E0)	0E0(0E0)	0E0(0E0)	0E0(0E0)	0E0(0E0)	0E0(0E0)	2.52E-2(3E-3)
	MaF02	1.22E-1(1.02E-2)	1.62E-1(1.68E-2)	1.9E-1(4.01E-3)	1.25E-1(7.88E-3)	1.67E-1(1.11E-2)	1.89E-1(3.99E-3)	3.63E0(1E-3)
	MaF03	5.74E-1(4.82E-1)	6.45E-1(4.86E-1)	6.5E-1(4.89E-1)	9.6E-1(3.18E-2)	1E0(3.99E-4)	1E0(2.67E-6)	2.28E0(2E-3)
	MaF04	5E-8(2.24E-7)	0E0(0E0)	0E0(0E0)	1E-7(3.08E-7)	5E-8(2.24E-7)	5E-8(2.24E-7)	2.85E-2(3E-3)
	MaF05	3.95E-1(1.05E-1)	3.24E-1(1.64E-1)	9.7E-1(1E-2)	4.86E-1(8.66E-2)	4.43E-1(1.74E-1)	9.72E-1(5.13E-3)	2.83E0(1E-3)
	MaF06	1.34E-2(2.73E-2)	2.35E-2(3.48E-2)	2.44E-2(3.33E-2)	9.09E-2(3.25E-4)	9.1E-2(7.53E-4)	9.1E-2(3.52E-4)	7.26E-1(1E-3)
	MaF07	1.2E-2(1.13E-2)	2.72E-2(2.67E-2)	1.48E-2(1.68E-2)	2.05E-2(1.34E-2)	3.95E-2(3.36E-2)	1.38E-2(1.69E-2)	9.64E-1(7E-3)
	MaF08	3.77E-4(2.24E-4)	3.78E-4(2.24E-4)	4.14E-4(2.45E-4)	3.98E-4(2.05E-4)	3.86E-4(1.99E-4)	4.43E-4(2.27E-4)	4.19E-1(3E-3)
	MaF09	9.73E-4(8.44E-5)	9.17E-4(1.72E-4)	1.1E-3(3.49E-5)	1.01E-3(4.3E-5)	9.6E-4(1.23E-4)	1.08E-3(3.14E-5)	7.33E-1(3E-3)
	MaF10	1E0(8.51E-5)	1E0(5.35E-5)	1E0(1.22E-4)	1E0(2.95E-5)	1E0(2.67E-6)	1E0(5.73E-6)	4.09E0(1E-3)
	MaF11	9.99E-1(2.91E-4)	9.99E-1(1.84E-4)	9.99E-1(2.05E-4)	1E0(7.31E-5)	1E0(1.17E-4)	1E0(1.66E-4)	4.03E0(2E-3)
	MaF12	6.9E-1(4.15E-2)	7.73E-1(4.89E-2)	8.5E-1(3.99E-2)	6.73E-1(3.8E-2)	7.84E-1(3.81E-2)	8.22E-1(5.12E-2)	3.69E0(1E-3)
	MaF13	8.29E-2(1.43E-3)	7.69E-2(4.67E-3)	8.75E-2(2.13E-3)	8.29E-2(2.51E-3)	7.2E-2(3.68E-3)	8.75E-2(2.04E-3)	1.37E0(9E-3)
	MaF14	9.68E-2(5.65E-2)	1.25E-1(1.03E-1)	1.41E-1(1.2E-1)	1.49E-1(8.6E-2)	1.57E-1(9.82E-2)	1.37E-1(7.64E-2)	8.92E-1(1E-3)
	MaF15	0E0(0E0)	0E0(0E0)	0E0(0E0)	0E0(0E0)	0E0(0E0)	0E0(0E0)	3.1E-3(2E-3)