f1

Gradiente delta F (0.0000001)

x0	Iter.	Opt. Point	Opt. Value	Error
50 50	367	0.990169, 0.990169	0.000195216	0.000195216
10 10	60	0.975245, 0.975245	0.00125583	0.00125583
5 5	26	0.999199, 0.999199	1.28384e-006	0.0000012838
2.5 2.5	11	0.999999, 0.999999	2.01883e-012	0
1.5 1.5	5	0.994507, 0.994507	6.06773e-005	0.0000606773
1 1	0	1 1	0	0
0.5 0.5	4	1.0125, 1.0125	0.000308462	0.000308462

f1

Gradiente X - last X (0.0000001)

x0	Iter.	Opt. Point	Opt. Value	Error
50 50	367	0.990169, 0.990169	0.000195216	0.000195216
10 10	60	0.975245, 0.975245	0.00125583	0.00125583
5 5	26	0.999199, 0.999199	1.28384e-006	0.0000012838
2.5 2.5	11	0.999999, 0.999999	2.01883e-012	0
1.5 1.5	5	0.994507, 0.994507	6.06773e-005	0.0000606773
1 1	0	1 1	0	0
0.5 0.5	4	1.0125, 1.0125	0.00	0.000308462

f1

Gradiente iter

x0	Iter.	Opt. Point	Opt. Value	Error
10 10	100000	1 1	0	0
5 5	100000	1 1	0	0
2.5 2.5	100000	1 1	0	0
1.5 1.5	100000	1 1	0	0
1 1	100000	1 1	0	0
0.5 0.5	100000	1 1	0	0
50 50	100000	1 1	0	0

f1

Newton delta F

x0	Iter.	Opt. Point	Opt. Value	Error
1.5 1.5	483	1.00156 1.00156	4.845e-06	0.000004845
1.3 1.3	470	1.00157 1.00157	4.91364e-06	0.0000049136
1.1 1.1	398	1.00156 1.00156	4.85673e-06	0.0000048567
0.9 0.9	427	0.998435 0.998435	4.90904e-06	0.0000049090
0.7 0.7	553	0.998434 0.998434	4.91519e-06	0.0000049151
1 1	1	1 1	0	0

f1

Newton last X

x0	Iter.	Opt. Point	Opt. Value	Error
1.5 1.5	529	1.00098 1.00098	1.91965e-06	0.0000019196
1.3 1.3	516	1.00099 1.00099	1.94682e-06	0.0000019468
1.1 1.1	444	1.00098 1.00098	1.92429e-06	0.0000019242
0.9 0.9	473	0.999013 0.999013	1.94959e-06	0.0000019495
0.7 0.7	599	0.999013 0.999013	1.95204e-06	0.0000019520
1 1	1	1 1	0	0

f1

Newton iter

x0	Iter.	Opt. Point	Opt. Value	Error
50 50	100000	50.1428 50.1428	3.45482	345482
10 10	100000	10.026 10.026	2.4534	962082
5 5	100000	5.01246 5.01246	1.824	1824
2.5 2.5	100000	2.50693 2.50693	0.989294	989294
1.5 1.5	100000	1 1	0	0
1 1	100000	1 1	0	0
0.5 0.5	100000	1 1	0	0
0.1 0.1	100000	1 1	0	0

f1

Quasi Newton delta F

x0	Iter.	Opt. Point	Opt. Value	Error
10 10	57	18.7345, 1.23689	2.26512	2.26512
4 4	680	6.01647, 1.95402	1.54094	1.54094
1.15 1.15	43	1.20352, 1.06604	0.037689	0.037689
1.05 1.05	167	1.00071, 1.07651	0.00542124	0.00542124
1.01 1.01	474	0.995354, 1.01869	0.000364617	0.000364617
0.99 0.99	196	1.00224, 0.982867	0.000303611	0.000303611
0.9 0.9	146	0.971986, 0.862552	0.0224167	0.0224167
1 1	1	1, 1	0	0

f1

Quasi Newton last X

x0	Iter.	Opt. Point	Opt. Value	Error
10 10	61	18.7345, 1.23689	2.26512	2.26512
4 4	906	6.01651, 1.95399	1.54094	1.54094
1.15 1.15	45	1.20352, 1.06605	0.037689	0.037689
1.05 1.05	172	1.00073, 1.07651	0.00542124	0.00542124
1.01 1.01	468	0.995354, 1.01869	0.000364618	0.000364618
0.99 0.99	201	1.00223, 0.982866	0.000303609	0.000303609
0.9 0.9	151	0.971974, 0.862554	0.0224167	0.0224167
1 1	1	1, 1	0	0

f1

Quasi Newton iter

x0	Iter.	Opt. Point	Opt. Value	Error
10 10	100	18.7513, 1.22165	2.26513	2.26513
4 4	100	6.05632, 1.92197	1.54134	1.54134
1.15 1.15	100	1.20352, 1.06605	0.037689	0.037689
1.05 1.05	100	0.999752, 1.07664	0.00543894	0.00543894
1.01 1.01	100	0.995452, 1.01899	0.000374474	0.000374474
0.99 0.99	100	1.00238, 0.982759	0.000308093	0.000308093
0.9 0.9	100	0.97187, 0.862571	0.0224171	0.0224171
1 1	100	1, 1	0	0

f1

f2

Gradiente delta F

x0	Iter.	Opt. Point	Opt. Value	Error
50 50	94	6.94318, 50.5887	4.00509	4.00509
10 10	20	3.14879, 10.4104	2.41237	2.41237
5 5	8	2.17905, 5.30976	1.80229	1.80229
2.5 2.5	5	1.4521, 2.68392	1.23535	1.23535
1.5 1.5	13	-0.0375187, -0.00582551	0.00145891	0.00145891
1 1	9	0.0191135, -0.00959819	0.000464491	0.000464491
0.5 0.5	6	0.0123947, -0.0149315	0.000381116	0.000381116
0 0	0	0 0	0	0

f2

Gradiente last X

x0	Iter.	Opt. Point	Opt. Value	Error
50 50	94	6.94318, 50.5887	4.00509	4.00509
10 10	100000	0.0638678, -0.043403	0.00631368	0.00631368
5 5	8	2.17905, 5.30976	1.80229	1.80229
2.5 2.5	5	1.4521, 2.68392	1.23535	1.23535
1.5 1.5	13	-0.0375187, -0.00582551	0.00145891	0.00145891
1 1	9	0.0191135, -0.00959819	0.000464491	0.000464491
0.5 0.5	6	0.0123947, -0.0149315	0.000381116	0.000381116
0 0	0	0 0	0	0

f2

Gradiente iter

x0	Iter.	Opt. Point	Opt. Value	Error
10 10	100000	0.638678 -0.043403	0.00631368	0.00631368
5 5	100000	0.0854977 0.00918034	0.00728674	0.00728674
2.5 2.5	100000	-0.0153297 -0.0426741	0.00207404	0.00207404
1.5 1.5	100000	0.0142757 -0.00518007	0.000232753	0.000232753
1 1	100000	-0.00127809 0.0098959	9.95251e-005	0.0000995251
0.5 0.5	100000	-0.00406265 0.00622682	5.50716e-005	0.0000550716
0 0	100000	0 0	0	0
50 50	100000	-0.0600919 0.0204274	0.00388627	0.00388627

f2

Newton delta F

x0	Iter.	Opt. Point	Opt. Value	Error
1.5 1.5	6	-7.59117e-06 -5.74587e-06	9.06415e-11	0
0.5 0.5		-2.5107e-07 1.35932e-06	1.91092e-12	0
0 0	0	0 0	0	0
0.2 0.2		-4.93574e-07 1.45822e-06	2.36988e-12	0

f2

Newton last X

x0	Iter.	Opt. Point	Opt. Value	Error
1.5 1.5	7	-4.37694e-07 -3.31289e-07	3.01315e-13	0
0.5 0.5	6	-1.44729e-08 7.83613e-08	6.43929e-15	0
0 0	0	0 0	0	0
0.2 0.2	5	-2.8452e-08 8.40623e-08	7.99361e-15	0

f2

Newton iter

x0	Iter.	Opt. Point	Opt. Value	Error
50 50	100000	50.0117 41.9119	15.6156	15.6156
10 10	100000	10.0083 9.76655	9.02078	9.02078
5 5	100000	5.00555 4.95524	6.06396	6.06396
2.5 2.5	100000	2.50398 2.484	3.07283	3.07283
1.5 1.5	100000	-6.17427 38.9993	3.68617	3.68617
1 1	100000	0.997417 1.04811	0.691986	0.691986
0.5 0.5	100000	0.174032 0.159383	0.0458839	0.0458839
0 0	100000	0 0	0	0
0.2 0.2	1000000	0.00165634 0.00194382	6.51122e-06	0.00000651122
0.5 0.5	10000000	-3.96695e-09 -3.96513e-09	0	0
0.6 0.6	1000000	14.7521 218.104	5.38841	5.38841

f2

Quasi Newton delta F

x0	Iter.	Opt. Point	Opt. Value	Error
5, 5	112	1.06162e+78, 3.21104e+77	inf	inf
2, 2	115	5.70745e+77, 2.86068e+78	inf	inf
1.1, 1.1	40	-0.0249259, -0.0137479	0.000827431	0.000827431
0.8, 0.8	234	-3.71711e+77, 1.29338e+77	inf	inf
0.6, 0.6	73	-0.016776, -0.0168296	0.000574057	0.000574057
0.2, 0.2	4	0.00577346, 0.00499003	5.79e-05	5.79e-05
0.01, 0.01	1	-0.00156741, -0.00168306	5.29772e-06	5.29772e-06
0, 0	1	0, 0	0	0

f2

Quasi Newton last X

x0	Iter.	Opt. Point	Opt. Value	Error
5, 5	112	1.06162e+78, 3.21104e+77	inf	inf
2, 2	115	5.70745e+77, 2.86068e+78	inf	inf
1.1, 1.1	2	-0.83383, 0.860213	0.543764	0.543764
0.8, 0.8	2	-0.286476, -0.0344426	0.0913416	0.0913416
0.6, 0.6	2	-0.0158515, -0.0177641	0.000575659	0.000575659
0.2, 0.2	2	0.00127504, 0.00926653	8.74603e-05	8.74603e-05
0.01, 0.01	1	-0.00156741, -0.00168306	5.29772e-06	5.29772e-06
0, 0	1	0, 0	0	0

f2

Quasi Newton iter

x0	Iter.	Opt. Point	Opt. Value	Error
5, 5	112	1.06162e+78, 3.21104e+77	inf	inf
2, 2	115	5.70745e+77, 2.86068e+78	inf	inf
1.1, 1.1	203	-1.57528e+78, 3.35893e+79	inf	inf
0.8, 0.8	234	-3.71711e+77, 1.29338e+77	inf	inf
0.6, 0.6	886	5.75774e+77, -6.2271e+77	inf	inf
0.2, 0.2	757	4.18572e+77, -4.64767e+77	inf	inf
0.01, 0.01	551	-5.62893e+77, 1.28174e+78	inf	inf
0, 0	1	0, 0	0	0

f2