

Table 1: Performance Results for NoisySphere\5Dnigma0.01Problem

Optimizer	Mean Final Value	Std Dev	Best Value	Worst Value	Mean Func Evals	Success Rate (%)	Mean Time (s)
Adam-Fast	5.22	1.41	1.33	8.18	23.6	2.5	0.002
L-BFGS-Conservative	1.61	1.12	2.63×10^{-1}	5.66	815.0	0.0	0.029
QQN-Bisection-1	3.39	1.54	3.71×10^{-1}	5.92	162.6	0.0	0.026
QQN-StrongWolfe	4.10	1.50	1.32	5.97	44.9	0.0	0.003
QQN-Backtracking	4.26	1.29	1.86×10^{-1}	5.74	200.2	0.0	0.009
QQN-GoldenSection	4.58	1.10	1.03	6.24	30.7	0.0	0.001
QQN-CubicQuadraticInterpolation	4.77	8.60×10^{-1}	2.34	6.04	28.3	0.0	0.003
QQN-MoreThuente	4.77	7.50×10^{-1}	3.40	5.98	20.9	0.0	0.003
L-BFGS-Aggressive	4.85	5.43×10^{-1}	3.98	6.06	6.5	0.0	0.000
Trust Region-Conservative	4.94	4.67×10^{-1}	3.92	5.86	6.7	0.0	0.001
Trust Region-Adaptive	5.03	5.45×10^{-1}	4.16	5.92	5.0	0.0	0.000
Adam-AMSGrad	5.07	5.12×10^{-1}	4.39	5.90	35.8	0.0	0.005
Adam-WeightDecay	5.07	4.21×10^{-1}	4.21	5.63	24.1	0.0	0.003
Adam	5.16	3.79×10^{-1}	4.46	5.86	22.5	0.0	0.002
Trust Region-Standard	5.17	4.76×10^{-1}	4.55	6.23	5.0	0.0	0.000
GD-Nesterov	5.22	1.09	3.36	7.48	13.6	0.0	0.002
GD	5.22	7.49×10^{-1}	3.57	7.24	14.1	0.0	0.002
GD-WeightDecay	5.36	9.34×10^{-1}	3.80	7.90	10.8	0.0	0.002
GD-Momentum	5.70	8.26×10^{-1}	3.71	6.84	12.5	0.0	0.002
L-BFGS	2.11×10^1	9.61	5.74	4.24×10^1	69.0	0.0	0.003