Starting matlabpool using the 'local' configuration ... connected to 8 labs.

Best Mean Stall

Generation f-count f(x) f(x) Generations

1 200 20.96 2.387e+007 0

2 300 20.96 4.572e+007 1

3 400 20.96 3.202e+005 2

4 500 20.96 3.183e+005 3

5 600 20.96 2879 4

Optimization terminated: maximum number of generations exceeded.

Switching to the hybrid optimization algorithm (FMINSEARCH).

Iteration Func-count min f(x) Procedure

0 1 20.9615

1 5 20.9615 initial simplex

2 6 20.9615 reflect

3 8 20.9615 contract outside

4 10 20.9615 contract inside

5 12 20.9615 contract inside

6 14 20.9615 contract inside

7 16 20.9615 contract inside

8 18 20.9615 contract inside

9 20 20.9615 contract outside

10 22 20.9615 contract inside

11 24 20.9615 contract inside

12 26 20.9615 contract inside

13 28 20.9615 contract inside

14 30 20.9615 contract inside

15 31 20.9615 reflect

16 32 20.9615 reflect

17 34 20.9615 contract inside

18 36 20.9615 contract inside

19 38 20.9615 contract inside

20 40 20.9615 contract inside

21 42 20.9615 contract inside

22 44 20.9615 contract inside

23 46 20.9615 contract outside

24 48 20.9571 contract inside

25 50 20.9041 contract inside

26 52 20.8399 reflect

27 54 20.8399 contract inside

28 55 20.8399 reflect

29 56 20.8399 reflect

30 58 20.8037 contract inside

31 60 20.7743 reflect

32 62 20.7743 contract inside

33 63 20.7743 reflect

34 64 20.7743 reflect

35 66 20.7006 reflect

36 68 20.7006 contract inside

37 70 20.7006 contract inside

38 72 20.7006 contract inside

39 74 20.7006 contract inside

40 76 20.6813 reflect

41 77 20.6813 reflect

42 79 20.6653 reflect

43 81 20.6653 contract inside

44 83 20.6653 contract inside

45 85 20.6653 contract inside

46 87 20.6653 contract inside

47 89 20.6624 contract inside

48 91 20.6364 reflect

49 92 20.6364 reflect

50 94 20.6364 contract inside

51 96 20.6364 contract inside

52 97 20.6364 reflect

53 99 20.6364 contract inside

54 101 20.6364 contract inside

55 102 20.6364 reflect

56 104 20.6364 contract inside

57 106 20.6364 contract inside

58 108 20.6329 reflect

59 109 20.6329 reflect

60 111 20.6329 contract inside

61 112 20.6329 reflect

62 113 20.6329 reflect

63 114 20.6329 reflect

64 116 20.6329 contract inside

65 118 20.6329 contract inside

66 120 20.631 reflect

67 122 20.631 contract inside

68 124 20.631 contract inside

69 125 20.631 reflect

70 127 20.631 contract inside

71 129 20.631 contract inside

72 131 20.631 contract inside

73 133 20.6304 expand

74 135 20.6304 contract inside

75 137 20.6304 contract inside

76 138 20.6304 reflect

77 140 20.6304 contract inside

78 142 20.6304 contract inside

79 144 20.6299 reflect

80 145 20.6299 reflect

81 147 20.6299 contract inside

82 148 20.6299 reflect

83 150 20.6299 contract inside

84 152 20.6299 contract inside

85 153 20.6299 reflect

86 154 20.6299 reflect

87 156 20.6299 contract inside

88 158 20.6299 contract inside

89 159 20.6299 reflect

90 161 20.6299 contract inside

91 163 20.6299 contract outside

92 165 20.6299 contract inside

93 167 20.6299 contract inside

94 168 20.6299 reflect

95 170 20.6299 contract inside

96 172 20.6299 contract inside

Optimization terminated:

the current x satisfies the termination criteria using OPTIONS.TolX of 1.000000e-004

and F(X) satisfies the convergence criteria using OPTIONS.TolFun of 1.000000e-004

FMINSEARCH terminated.

**x =[2.453,0.972,0.3658,0.0878]; % fval =20.6299;**

exitflag =0

output =

problemtype: 'unconstrained'

rngstate: [1x1 struct]

generations: 5

funccount: 772

message: [1x274 char]

population =

2.4694 0.9595 0.3687 0.0887

2.4694 0.9595 0.3687 0.0887

0.5049 0.7547 0.2606 0.0887

2.4694 0.9595 0.3687 0.0887

1.0567 0.8907 0.6527 0.0086

2.2100 0.8235 0.5102 0.3866

2.4694 0.9595 0.3687 0.0887

2.4694 1.0162 0.6967 0.0887

0.2833 0.9595 0.1908 0.0887

1.3997 1.2475 0.3687 0.3921

2.4694 0.7768 0.2806 0.4763

2.4694 0.4248 0.3687 0.0887

2.4694 0.8235 0.4473 0.2911

0.9834 0.9595 0.3687 0.0887

2.4694 0.7528 0.3687 0.4444

2.4694 0.9595 0.3687 0.0887

2.8197 0.9370 0.3598 0.2530

2.1153 1.1279 -0.2876 0.0193

2.4694 0.7547 0.3687 -0.5500

2.4694 0.3337 0.3687 0.0887

0.2805 0.9595 -0.0622 -0.3919

1.3939 0.5401 0.3725 0.1820

2.4694 0.9595 0.3687 0.0887

2.4694 0.5176 0.8794 0.3758

2.6729 0.9595 0.3687 0.0887

2.4694 1.1027 0.6925 0.2847

1.2105 1.5427 0.3689 0.3209

2.4694 0.9750 -0.2876 0.0887

2.4694 0.3242 0.3687 0.3732

2.4694 0.9595 0.3687 0.0887

0.8335 0.9595 0.4512 -0.6835

1.0784 0.9595 0.4512 0.0887

2.8279 0.9595 0.3687 0.0887

2.4694 0.9595 -0.1709 0.0887

2.4694 0.9595 0.3687 0.0887

2.4694 0.9595 0.3687 0.0887

1.9748 1.0949 -1.0159 -0.0053

2.2172 0.9963 0.8400 0.3732

0.4641 0.9595 0.3687 0.3732

2.4694 0.9595 0.1363 0.0887

0.5276 0.5591 0.3687 0.3732

1.9748 1.0827 -1.0159 0.0887

2.6621 1.1706 0.4326 0.2662

0.8144 0.9595 0.1363 0.0485

2.4694 0.8393 0.5102 0.3866

2.4694 0.9595 0.4326 0.0887

0.0595 1.5239 0.7272 0.0213

0.4198 0.0355 0.8401 0.8293

2.4694 0.9595 0.3687 0.0887

0.8536 0.9595 0.3687 0.1453

2.4694 0.3162 0.3687 0.0887

2.4694 0.7528 0.3687 0.3105

0.8505 1.0467 -0.3020 0.2021

2.4694 0.9595 0.3687 0.0887

0.8829 0.9364 0.3687 0.0887

2.4694 1.1279 0.3687 0.0887

2.4694 0.9595 0.1152 0.0887

2.1153 0.4062 0.3687 0.0193

2.4694 0.9595 0.4473 0.2911

2.4694 0.7843 0.3687 0.0887

2.8279 0.9595 0.8322 0.0887

0.4624 0.9963 0.6532 0.3758

2.4694 0.8235 0.3687 0.0887

2.1057 0.9340 0.2830 0.6583

2.4694 0.5217 0.0841 0.0887

2.4694 0.3679 0.3687 0.7237

2.4694 0.5730 0.3687 0.0887

2.4694 0.9595 0.6925 0.0887

2.3867 1.1027 0.3687 0.0887

2.4694 0.9750 0.5356 0.0887

2.4694 0.7961 -0.1168 0.0346

2.1157 0.9595 0.7516 0.0887

2.3436 0.9844 -0.0395 0.0838

2.4694 0.9595 0.2144 0.3732

2.4694 0.9595 0.6925 0.2911

2.3436 0.9844 0.3687 0.0887

2.4694 0.9595 0.3687 0.0887

2.4694 0.7383 0.2806 0.0086

0.4140 1.3244 0.3687 0.0887

2.4694 0.9595 -0.9687 0.0887

2.9478 0.3337 0.3598 0.0012

2.4694 0.9595 0.3687 0.0887

2.4694 0.9595 0.3687 0.0887

2.4381 1.0899 0.8533 0.7949

2.4694 0.9595 0.3687 0.0887

2.4694 0.9595 0.3687 0.1453

2.4694 0.9595 0.3687 0.0887

2.4694 0.1502 0.3687 0.8732

2.4694 0.8235 0.1449 0.1453

2.4694 0.9595 0.3687 0.0887

2.4694 0.9595 0.3687 0.0887

0.1047 1.1048 0.3689 0.3209

2.4694 0.9595 0.7430 0.0887

2.4694 0.9595 0.3687 0.0887

2.4694 0.9595 0.1908 0.2911

2.8197 1.5239 0.7272 0.0213

0.9694 0.0518 0.6527 0.0887

2.4694 0.9595 0.3687 0.0887

2.6414 0.8387 0.8751 -0.3335

1.9364 1.0467 -0.3020 0.2021

scores =

1.0e+004 \*

0.0021

0.0021

0.5438

0.0021

0.4487

0.0878

0.0021

0.0870

0.5674

0.4146

0.1456

0.3354

0.0367

0.4708

0.1190

0.0021

0.0521

0.3273

0.3376

0.3646

0.7909

0.4357

0.0021

0.2682

0.0437

0.2942

0.4014

0.3210

0.3781

0.0021

0.8547

0.4521

0.0790

0.2987

0.0021

0.0021

0.4551

0.0353

0.5568

0.2399

0.5531

0.4607

0.3053

0.5009

0.0452

0.0138

3.7749

0.8846

0.0021

0.4917

0.3702

0.0643

0.5340

0.0021

0.4871

0.2530

0.2430

0.3637

0.0045

0.0477

0.1978

0.5560

0.0380

0.4822

0.3305

0.5633

0.2955

0.0658

0.2268

0.0385

0.1141

0.0034

0.2804

0.2595

0.0487

0.2182

0.0021

0.0671

0.5405

0.4429

0.3316

0.0021

0.0021

0.3060

0.0021

0.0066

0.0021

0.7116

0.0720

0.0021

0.0021

0.6229

0.0767

0.0021

0.2474

0.7031

0.5613

0.0021

0.3154

0.3793

Sending a stop signal to all the labs ... stopped.

Caculation finished and the elapsedTime= 3.8646hours

**x =[2.453,0.972,0.3658,0.0878]; % fval =20.6299; AR =2.9000;Re =160.5336;**

**P\_asterisk =20.6269; L =0.9999; delta =-1.1455e-004;**

**penaltyfun1 =0.2291; penaltyfun2 =0;penaltyfun5 =0; obj\_function =20.8560;**

**由下面的数据作为初始值计算而来：**

**x\_start=[2.4694,0.9595,0.3687,0.0887];**