Number of Estimated Variable(s): 10

Estimated Variable(s):
	Initial	Final	Lower bound	Upper bound
1	0.060	0.10736278	-0.20	0.20
2	-0.600	0.07888015	-1.00	1.00
3	0.120	0.23876211	0.00	0.50
4	0.240	0.14208595	0.00	0.50
5	-0.600	-0.19604275	-1.00	1.00
6	0.240	0.19772365	0.00	0.50
7	30.000	15.09849128	0.00	50.00
8	-0.012	-0.04695421	-0.05	0.05
9	0.024	0.05549347	0.00	0.10
10	0.024	0.03362162	0.00	0.10

Cost Function:
```
function (x = NULL, index = NULL, fmsfundata = NULL)
{
    fminbnd <- list(f = fmsfundata$Fun(x), index = index, this = list(costfargument = fmsfundata))
    return(fminbnd)
}
<environment: namespace:neldermead>
```

Cost Function Argument(s):
```
$Fun
function (theta_hat)
{
    logllf = -1 * LFcpp(ubounds, lbounds, M, Delta, N, theta_hat,
        rho, ell, X, N2, Nrv, Npois, Marks, W1, W3)
    if (is.na(logllf)) {
        logllf = 1e+07
    }
    logllf
}
```

```
attr(,"class")
[1] "optimbase.functionargs"
```

Optimization:
- Status: "maxiter"
- Initial Cost Function Value: -53.629349
- Final Cost Function Value: -59.213958
- Number of Iterations (max): 100 (100)
- Number of Function Evaluations (max): 209 (100000000)

Simplex Information:

- Simplex at Initial Point:
Dimension: n=10

Number of vertices: nbve=20

Vertex #1/20 : fv=-5.362935e+01, x=6.000000e-02 -6.000000e-01 1.200000e-01 2.400000e-01 -6.000000e-01 2.400000e-01 3.000000e+01 -1.200000e-02 2.400000e-02 2.400000e-02

Vertex #2/20 : fv=-1.280356e+01, x=8.109525e-02 1.457332e-01 3.833833e-01 5.148343e-02 8.503316e-01 3.834304e-01 2.905795e+01 -4.036833e-02 3.319415e-02 2.188010e-02

Vertex #3/20 : fv=9.445341e+02, x=-1.711478e-01 1.176215e-01 4.657293e-01 3.779108e-01 -1.617907e-01 3.778758e-02 2.510957e+01 1.080734e-03 1.481892e-03 9.725636e-03

Vertex #4/20 : fv=-5.036549e+01, x=6.141652e-02 -7.194289e-01 6.806911e-02 1.353815e-01 6.662152e-02 1.230953e-01 9.010982e+00 -3.436267e-02 9.491518e-02 9.476591e-02

Vertex #5/20 : fv=-3.951952e+01, x=1.538077e-01 -6.468552e-01 2.833626e-01 1.579807e-01 9.682717e-02 3.962073e-01 7.830033e+00 -3.583950e-02 3.716368e-02 5.227433e-02

Vertex #6/20 : fv=3.349871e+00, x=9.046376e-02 -8.511237e-01 1.043385e-02 3.938968e-01 -3.155747e-01 4.586692e-01 3.946649e+01 9.134270e-03 2.935632e-03 9.774963e-02

Vertex #7/20 : fv=-2.202110e+01, x=1.608410e-01 -6.528327e-01 2.248632e-01 3.564829e-01 -4.792318e-01 4.056836e-01 4.165632e+01 -1.637276e-02 2.084448e-02 5.491216e-02

Vertex #8/20 : fv=-2.059703e+01, x=1.262948e-01 -6.246452e-01 1.702324e-01 4.717755e-01 -2.500109e-01 4.919051e-01 3.636319e+01 4.234840e-02 8.119347e-02 4.396713e-02

Vertex #9/20 : fv=Inf, x=-1.200756e-01 4.151768e-01 1.952352e-01 4.618574e-02 5.899376e-01 6.106570e-02 3.536716e+00 3.785744e-02 1.219991e-02 9.895640e-04

Vertex #10/20 : fv=1.000000e+07, x=3.105562e-02 -3.865319e-01 1.698078e-02 1.649606e-01 -6.541190e-01 1.746181e-01 3.573923e+01 1.000135e-02 3.188537e-02 8.998683e-02

Vertex #11/20 : fv=-3.592050e+01, x=-8.225715e-02 7.789389e-01 3.140211e-01 1.048020e-01 -6.560821e-01 1.121312e-01 1.454855e+01 -3.185865e-02 6.116622e-02 2.479890e-02

Vertex #12/20 : fv=-3.115167e+01, x=6.207434e-02 -7.115738e-01 5.381163e-02 4.488001e-01 4.231350e-01 3.195055e-01 4.367618e+00 -9.840189e-03 4.861557e-02 3.345535e-02

Vertex #13/20 : fv=1.000000e+07, x=-1.201751e-01 7.923088e-01 3.638561e-02 2.986302e-01 7.249950e-01 4.477961e-01 8.307267e+00 2.672975e-02 7.507781e-03 3.685730e-02

Vertex #14/20 : fv=-4.177369e+01, x=7.832042e-02 7.668436e-01 2.018663e-01 7.748931e-02 5.034199e-01 3.020028e-01 2.993725e+01 -4.643873e-02 3.857885e-02 3.806851e-02

Vertex #15/20 : fv=1.000000e+07, x=1.320974e-01 -3.442426e-02 4.638624e-01 2.537530e-01 5.930053e-01 5.733310e-03 1.184726e+01 3.624771e-02 1.728662e-02 6.300956e-03

Vertex #16/20 : fv=-2.309184e+01, x=-7.947280e-02 -2.915297e-01 2.455241e-01 6.895156e-02 4.769576e-01 4.581758e-01 2.587995e+01 1.159498e-03 7.471251e-02 7.421113e-02

Vertex #17/20 : fv=-7.779523e+00, x=-1.951663e-01 3.768863e-01 9.213472e-02 3.504870e-01 1.982844e-01 4.885732e-01 3.590860e+01 -4.973041e-02 1.463900e-02 7.543545e-02

Vertex #18/20 : fv=-2.726855e+01, x=1.484281e-01 -8.980474e-01 1.059452e-01 3.115060e-01 7.623560e-02 4.663502e-01 1.630529e+01 -4.542924e-02 9.626761e-02 9.766879e-02

Vertex #19/20 : fv=5.008598e+02, x=5.182248e-02 8.437601e-03 1.791356e-01 4.996397e-01 -2.928979e-01 3.144083e-02 3.241545e+01 8.097959e-03 2.085625e-02 7.066961e-02
Vertex #20/20 : fv=-1.059228e+01, x=1.510821e-01 -9.483150e-01 4.107138e-01 4.023009e-01 -2.473292e-01 3.211049e-01 4.903702e+01 -1.151713e-02 2.226702e-02 6.292387e-02

- Simplex at Optimal Point:
Dimension: n=10
Number of vertices: nbve=20
Vertex #1/20 : fv=-5.921396e+01, x=1.073628e-01 7.888015e-02 2.387621e-01 1.420860e-01 -1.960428e-01 1.977237e-01 1.509849e+01 -4.695421e-02 5.549347e-02 3.362162e-02
Vertex #2/20 : fv=-5.909763e+01, x=8.200778e-02 -1.760727e-02 2.057890e-01 1.772644e-01 -1.788607e-01 1.733992e-01 1.909487e+01 -3.257109e-02 4.002828e-02 2.527966e-02
Vertex #3/20 : fv=-5.875892e+01, x=1.201176e-01 -8.811578e-02 2.118013e-01 1.473070e-01 -1.808899e-01 2.033321e-01 1.916540e+01 -3.990545e-02 3.884612e-02 2.828383e-02
Vertex #4/20 : fv=-5.875652e+01, x=1.301900e-01 -2.927051e-01 3.361350e-01 1.931191e-01 -1.302906e-01 1.646844e-01 1.867597e+01 -3.491243e-02 3.607961e-02 2.960860e-02
Vertex #5/20 : fv=-5.874392e+01, x=1.552324e-01 -5.492105e-02 1.790006e-01 1.333523e-01 -2.353188e-01 1.841320e-01 1.653299e+01 -4.877760e-02 3.319828e-02 2.970386e-02
Vertex #6/20 : fv=-5.870695e+01, x=7.767803e-02 -1.367122e-01 2.187376e-01 1.527599e-01 -2.621017e-01 1.778865e-01 1.851950e+01 -3.096693e-02 3.893804e-02 3.115124e-02
Vertex #7/20 : fv=-5.861003e+01, x=7.908218e-02 -9.635120e-02 2.324082e-01 1.242722e-01 -2.461396e-01 1.935871e-01 2.055831e+01 -3.373530e-02 3.856185e-02 2.784732e-02
Vertex #8/20 : fv=-5.860072e+01, x=5.768034e-02 1.212562e-01 2.537378e-01 1.259484e-01 -6.988243e-02 1.510552e-01 1.399591e+01 -4.144640e-02 5.328667e-02 4.065838e-02
Vertex #9/20 : fv=-5.857698e+01, x=1.131547e-01 -1.428851e-01 2.339229e-01 1.390211e-01 -2.044078e-01 1.907884e-01 2.091988e+01 -3.614548e-02 3.794573e-02 2.887062e-02
Vertex #10/20 : fv=-5.854173e+01, x=4.616701e-02 1.243426e-01 2.112006e-01 1.360428e-01 -9.088111e-02 1.599784e-01 1.593311e+01 -3.488597e-02 5.115478e-02 2.670089e-02
Vertex #11/20 : fv=-5.849835e+01, x=5.636026e-02 -1.439632e-01 1.022020e-01 5.540119e-02 -1.522277e-01 1.699407e-01 1.043507e+01 -2.370553e-02 5.700120e-02 4.545561e-02
Vertex #12/20 : fv=-5.845374e+01, x=2.303877e-02 5.451950e-02 1.914134e-01 1.377094e-01 -1.614073e-01 1.674886e-01 1.210054e+01 -4.010102e-02 5.015583e-02 3.268322e-02
Vertex #13/20 : fv=-5.826066e+01, x=6.062910e-02 9.547985e-02 2.878200e-01 9.556832e-02 -1.604061e-01 1.604963e-01 1.414686e+01 -3.573367e-02 4.388091e-02 3.173703e-02
Vertex #14/20 : fv=-5.820883e+01, x=8.082429e-02 -2.077385e-01 2.000541e-01 2.066518e-01 -2.753367e-01 1.845667e-01 1.678481e+01 -3.341868e-02 4.212786e-02 3.109429e-02
Vertex #15/20 : fv=-5.810872e+01, x=4.673154e-02 1.011618e-01 2.110894e-01 1.683797e-01 -2.358109e-01 2.068622e-01 1.760271e+01 -3.043979e-02 3.578219e-02 2.636107e-02

Vertex #16/20 : fv=-5.803790e+01, x=2.792482e-02 6.710977e-02 2.332012e-01
7.611343e-02 -1.947983e-01 1.744684e-01 1.893811e+01 -2.502701e-02 3.748065e-02
2.976768e-02
Vertex #17/20 : fv=-5.802182e+01, x=3.262572e-02 1.391179e-02 2.480099e-01
1.849161e-01 -3.584841e-01 2.110616e-01 1.965491e+01 -3.061342e-02 3.924563e-02
1.861104e-02
Vertex #18/20 : fv=-5.801042e+01, x=1.147770e-01 -4.255193e-01 1.896851e-01
2.032381e-01 -6.934891e-02 1.991897e-01 1.597404e+01 -3.027277e-02 2.395436e-02
2.781946e-02
Vertex #19/20 : fv=-5.800138e+01, x=9.562241e-02 -7.792878e-02 2.387442e-01
1.362353e-01 -2.624632e-01 1.790230e-01 2.017843e+01 -3.424270e-02 4.040932e-02
3.067842e-02
Vertex #20/20 : fv=-5.798217e+01, x=8.844581e-02 -2.257765e-01 2.095259e-01
1.919376e-01 -3.494193e-01 1.609487e-01 1.427346e+01 -3.472466e-02 6.353285e-02
3.484979e-02