URL: http://cxc.harvard.edu/ciao3.4/monte−lm.html
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AHELP for CIAO 3.4

monte−lm

Context: sherpa

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Synopsis

A Monte Carlo search utilizing the Powell method at each selected point.

Syntax

```
monte−lm  [nloop] [iseed]
```

Description

The MONTE−LM method randomly samples the parameter space bounded by the lower and upper limits for each thawed parameter. At each grid point, the LEVENBERG−MARQUARDT optimization method is used to determine the local fit−statistic minimum. The smallest of all observed minima is then adopted as the global fit−statistic minimum. The advantage of MONTE−LM is that it can provide a good sampling of parameter space. This is good for situations where the best−fit parameter values are not easily guessed a priori, and where there is a high probability that false minima would be found if one−shot techniques such as LEVENBERG−MARQUARDT are used instead. Its disadvantage is that it can be slow.

The MONTE−LM method parameters are a superset of those listed for the LEVENBERG−MARQUARDT method and the ones listed below.

If the number of thawed parameters is larger than 2, one should increase the value of nloop from its default value. Otherwise the sampling may be too sparse to estimate the global fit−statistic minimum well.

Parameters

name	type	def	min	max
nloop	integer	128	1	16384
iseed	integer	14391	−1.e+20	1.e+20

Detailed Parameter Descriptions

Parameter=nloop (integer default=128 min=1 max=16384)

Number of parameter space samples.

Parameter=iseed (integer default=14391 min=−1.e+20 max=1.e+20)

Seed for random number generator.

Bugs

See the Sherpa bug pages online for an up−to−date listing of known bugs.

See Also

sherpa

get_method_expr, grid, grid−powell, levenberg−marquardt, method, monte−powell, montecarlo, powell, sigma−rejection, simplex, simul−ann−1, simul−ann−2, simul−pow−1, simul−pow−2, usermethod

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