

R documentation

of 'models.Rd'

March 14, 2011

`inla.models`

Valid models in INLA

Description

This page describe the models implemented in `inla`, divided into sections: latent, group, predictor, hazard, likelihood, prior, wrapper .

Usage

```
inla.models()
```

Value

Valid sections are: latent, group, predictor, hazard, likelihood, prior, wrapper

Section 'latent'. Valid models in this section are:

Model 'linear'. Number of hyperparameters are 0.

Model 'iid'. Number of hyperparameters are 1.

Hyperparameter 'theta' name = 'log precision'

short.name = 'prec'

prior = 'loggamma'

param = '1 5e-05'

initial = '4'

fixed = 'FALSE'

to.theta = 'function(x) log(x)'

from.theta = 'function(x) exp(x)'

Properties: constr = 'FALSE'

nrow.ncol = 'FALSE'

augmented = 'FALSE'

aug.factor = '1'

aug.constr = 'NULL'

n.div.by = 'NULL'

n.required = 'FALSE'

```
set.default.values = 'FALSE'
```

Model 'rw1'. Number of hyperparameters are 1.

```
Hyperparameter 'theta' name = 'log precision'
```

```
short.name = 'prec'
```

```
prior = 'loggamma'
```

```
param = '1 5e-05'
```

```
initial = '4'
```

```
fixed = 'FALSE'
```

```
to.theta = 'function(x) log(x)'
```

```
from.theta = 'function(x) exp(x)'
```

```
Properties: constr = 'TRUE'
```

```
nrow.ncol = 'FALSE'
```

```
augmented = 'FALSE'
```

```
aug.factor = '1'
```

```
aug.constr = 'NULL'
```

```
n.div.by = 'NULL'
```

```
n.required = 'FALSE'
```

```
set.default.values = 'FALSE'
```

Model 'rw2'. Number of hyperparameters are 1.

```
Hyperparameter 'theta' name = 'log precision'
```

```
short.name = 'prec'
```

```
prior = 'loggamma'
```

```
param = '1 5e-05'
```

```
initial = '4'
```

```
fixed = 'FALSE'
```

```
to.theta = 'function(x) log(x)'
```

```
from.theta = 'function(x) exp(x)'
```

```
Properties: constr = 'TRUE'
```

```
nrow.ncol = 'FALSE'
```

```
augmented = 'FALSE'
```

```
aug.factor = '1'
```

```
aug.constr = 'NULL'
```

```
n.div.by = 'NULL'
```

```
n.required = 'FALSE'
```

```
set.default.values = 'FALSE'
```

Model 'crw2'. Number of hyperparameters are 1.

```
Hyperparameter 'theta' name = 'log precision'
```

```
short.name = 'prec'
```

```
prior = 'loggamma'
```

```
param = '1 5e-05'
```

```
initial = '4'
```

```
fixed = 'FALSE'
```

```
to.theta = 'function(x) log(x)'
```

```
from.theta = 'function(x) exp(x)'
```

```
Properties: constr = 'TRUE'
```

```

nrow.ncol = 'FALSE'
augmented = 'FALSE'
aug.factor = '2'
aug.constr = '1'
n.div.by = 'NULL'
n.required = 'FALSE'
set.default.values = 'FALSE'

```

Model 'seasonal'. Number of hyperparameters are 1.

```

Hyperparameter 'theta' name = 'log precision'
short.name = 'prec'
prior = 'loggamma'
param = '1 5e-05'
initial = '4'
fixed = 'FALSE'
to.theta = 'function(x) log(x)'
from.theta = 'function(x) exp(x)'

```

```

Properties: constr = 'FALSE'
nrow.ncol = 'FALSE'
augmented = 'FALSE'
aug.factor = '1'
aug.constr = 'NULL'
n.div.by = 'NULL'
n.required = 'FALSE'
set.default.values = 'FALSE'

```

Model 'besag'. Number of hyperparameters are 1.

```

Hyperparameter 'theta' name = 'log precision'
short.name = 'prec'
prior = 'loggamma'
param = '1 5e-05'
initial = '4'
fixed = 'FALSE'
to.theta = 'function(x) log(x)'
from.theta = 'function(x) exp(x)'

```

```

Properties: constr = 'TRUE'
nrow.ncol = 'FALSE'
augmented = 'FALSE'
aug.factor = '1'
aug.constr = 'NULL'
n.div.by = 'NULL'
n.required = 'TRUE'
set.default.values = 'TRUE'

```

Model 'besag2'. Number of hyperparameters are 2.

```

Hyperparameter 'theta1' name = 'log precision'
short.name = 'prec'
prior = 'loggamma'

```

```

    param = '1 5e-05'
    initial = '4'
    fixed = 'FALSE'
    to.theta = 'function(x) log(x)'
    from.theta = 'function(x) exp(x)'
Hyperparameter 'theta2' name = 'scaling parameter'
    short.name = 'a'
    prior = 'loggamma'
    param = '10 10'
    initial = '0'
    fixed = 'FALSE'
    to.theta = 'function(x) log(x)'
    from.theta = 'function(x) exp(x)'
Properties: constr = 'FALSE'
    nrow.ncol = 'FALSE'
    augmented = 'FALSE'
    aug.factor = '1'
    aug.constr = '1 2'
    n.div.by = '2'
    n.required = 'TRUE'
    set.default.values = 'TRUE'
Model 'bym'. Number of hyperparameters are 2.
Hyperparameter 'theta1' name = 'log unstructured precision'
    short.name = 'prec.unstruct'
    prior = 'loggamma'
    param = '1 0.001'
    initial = '4'
    fixed = 'FALSE'
    to.theta = 'function(x) log(x)'
    from.theta = 'function(x) exp(x)'
Hyperparameter 'theta2' name = 'log spatial precision'
    short.name = 'prec.spatial'
    prior = 'normal'
    param = '0 5e-05'
    initial = '4'
    fixed = 'FALSE'
    to.theta = 'function(x) log(x)'
    from.theta = 'function(x) exp(x)'
Properties: constr = 'TRUE'
    nrow.ncol = 'FALSE'
    augmented = 'TRUE'
    aug.factor = '2'
    aug.constr = '2'
    n.div.by = 'NULL'
    n.required = 'TRUE'

```

```
set.default.values = 'TRUE'
```

Model 'ar1'. Number of hyperparameters are 2.

Hyperparameter 'theta1' name = 'log precision'

```
short.name = 'prec'
```

```
prior = 'loggamma'
```

```
param = '1 5e-05'
```

```
initial = '4'
```

```
fixed = 'FALSE'
```

```
to.theta = 'function(x) log(x)'
```

```
from.theta = 'function(x) exp(x)'
```

Hyperparameter 'theta2' name = 'logit lag one correlation'

```
short.name = 'rho'
```

```
prior = 'normal'
```

```
param = '0 0.15'
```

```
initial = '2'
```

```
fixed = 'FALSE'
```

```
to.theta = 'function(x) log((1+x)/(1-x))'
```

```
from.theta = 'function(x) 2*exp(x)/(1+exp(x))-1'
```

Properties: constr = 'FALSE'

```
nrow.ncol = 'FALSE'
```

```
augmented = 'FALSE'
```

```
aug.factor = '1'
```

```
aug.constr = 'NULL'
```

```
n.div.by = 'NULL'
```

```
n.required = 'FALSE'
```

```
set.default.values = 'FALSE'
```

Model 'generic'. Number of hyperparameters are 1.

Hyperparameter 'theta' name = 'log precision'

```
short.name = 'prec'
```

```
prior = 'loggamma'
```

```
param = '1 5e-05'
```

```
initial = '4'
```

```
fixed = 'FALSE'
```

```
to.theta = 'function(x) log(x)'
```

```
from.theta = 'function(x) exp(x)'
```

Properties: constr = 'FALSE'

```
nrow.ncol = 'FALSE'
```

```
augmented = 'FALSE'
```

```
aug.factor = '1'
```

```
aug.constr = 'NULL'
```

```
n.div.by = 'NULL'
```

```
n.required = 'TRUE'
```

```
set.default.values = 'TRUE'
```

Model 'generic0'. Number of hyperparameters are 1.

Hyperparameter 'theta' name = 'log precision'

```

short.name = 'prec'
prior = 'loggamma'
param = '1 5e-05'
initial = '4'
fixed = 'FALSE'
to.theta = 'function(x) log(x)'
from.theta = 'function(x) exp(x)'
Properties: constr = 'FALSE'
nrow.ncol = 'FALSE'
augmented = 'FALSE'
aug.factor = '1'
aug.constr = 'NULL'
n.div.by = 'NULL'
n.required = 'TRUE'
set.default.values = 'TRUE'

```

Model 'generic1'. Number of hyperparameters are 2.

Hyperparameter 'theta1' name = 'log precision'

```

short.name = 'prec'
prior = 'loggamma'
param = '1 5e-05'
initial = '4'
fixed = 'FALSE'
to.theta = 'function(x) log(x)'
from.theta = 'function(x) exp(x)'

```

Hyperparameter 'theta2' name = 'beta'

```

short.name = 'beta'
initial = '2'
fixed = 'FALSE'
prior = 'gaussian'
param = '0 0.1'

```

```

Properties: constr = 'FALSE'
nrow.ncol = 'FALSE'
augmented = 'FALSE'
aug.factor = '1'
aug.constr = 'NULL'
n.div.by = 'NULL'
n.required = 'TRUE'
set.default.values = 'TRUE'

```

Model 'generic2'. Number of hyperparameters are 2.

Hyperparameter 'theta1' name = 'log precision cmatrix'

```

short.name = 'prec'
initial = '4'
fixed = 'FALSE'
prior = 'loggamma'
param = '1 5e-05'

```

```

    to.theta = 'function(x) log(x)'
    from.theta = 'function(x) exp(x)'
Hyperparameter 'theta2' name = 'log precision random'
    short.name = 'prec.random'
    initial = '4'
    fixed = 'FALSE'
    prior = 'loggamma'
    param = '0 0.001'
    to.theta = 'function(x) log(x)'
    from.theta = 'function(x) exp(x)'
Properties: constr = 'FALSE'
    nrow.ncol = 'FALSE'
    augmented = 'FALSE'
    aug.factor = '2'
    aug.constr = '2'
    n.div.by = 'NULL'
    n.required = 'TRUE'
    set.default.values = 'TRUE'
Model 'spde'. Number of hyperparameters are 4.
Hyperparameter 'theta1' name = 'theta.T'
    short.name = 'T'
    initial = '2'
    fixed = 'FALSE'
    prior = 'normal'
    param = '0 1'
Hyperparameter 'theta2' name = 'theta.K'
    short.name = 'K'
    initial = '-2'
    fixed = 'FALSE'
    prior = 'normal'
    param = '0 1'
Hyperparameter 'theta3' name = 'theta.KT'
    short.name = 'KT'
    initial = '0'
    fixed = 'FALSE'
    prior = 'normal'
    param = '0 1'
Hyperparameter 'theta4' name = 'theta.OC'
    short.name = 'OC'
    initial = '-20'
    fixed = 'TRUE'
    prior = 'normal'
    param = '0 0.2'
Properties: constr = 'FALSE'
    nrow.ncol = 'FALSE'

```

```

augmented = 'FALSE'
aug.factor = '1'
aug.constr = 'NULL'
n.div.by = 'NULL'
n.required = 'TRUE'
set.default.values = 'TRUE'

```

Model 'iid1d'. Number of hyperparameters are 1.

```

Hyperparameter 'theta' name = 'precision'
short.name = 'prec'
initial = '4'
fixed = 'FALSE'
prior = 'wishart1d'
param = '2 1e-04'
to.theta = 'function(x) log(x)'
from.theta = 'function(x) exp(x)'

```

```

Properties: constr = 'FALSE'
nrow.ncol = 'FALSE'
augmented = 'FALSE'
aug.factor = '1'
aug.constr = 'NULL'
n.div.by = 'NULL'
n.required = 'TRUE'
set.default.values = 'TRUE'

```

Model 'iid2d'. Number of hyperparameters are 3.

```

Hyperparameter 'theta1' name = 'log precision1'
short.name = 'prec1'
initial = '4'
fixed = 'FALSE'
prior = 'wishart2d'
param = '4 1 1 0'
to.theta = 'function(x) log(x)'
from.theta = 'function(x) exp(x)'

```

```

Hyperparameter 'theta2' name = 'log precision2'
short.name = 'prec2'
initial = '4'
fixed = 'FALSE'
prior = 'none'
param = ''
to.theta = 'function(x) log(x)'
from.theta = 'function(x) exp(x)'

```

```

Hyperparameter 'theta3' name = 'logit correlation'
short.name = 'cor'
initial = '4'
fixed = 'FALSE'
prior = 'none'

```



```

param = ''
to.theta = 'function(x) log((1+x)/(1-x))'
from.theta = 'function(x) 2*exp(x)/(1+exp(x))-1'
Properties: constr = 'FALSE'
nrow.ncol = 'FALSE'
augmented = 'TRUE'
aug.factor = '1'
aug.constr = '1 2'
n.div.by = '2'
n.required = 'TRUE'
set.default.values = 'TRUE'

```

Model 'iid3d'. Number of hyperparameters are 6.

Hyperparameter 'theta1' name = 'log precision1'

```

short.name = 'prec1'
initial = '4'
fixed = 'FALSE'
prior = 'wishart3d'
param = '7 1 1 1 0 0 0'
to.theta = 'function(x) log(x)'
from.theta = 'function(x) exp(x)'

```

Hyperparameter 'theta2' name = 'log precision2'

```

short.name = 'prec2'
initial = '4'
fixed = 'FALSE'
prior = 'none'
param = ''
to.theta = 'function(x) log(x)'
from.theta = 'function(x) exp(x)'

```

Hyperparameter 'theta3' name = 'log precision3'

```

short.name = 'prec3'
initial = '4'
fixed = 'FALSE'
prior = 'none'
param = ''
to.theta = 'function(x) log(x)'
from.theta = 'function(x) exp(x)'

```

Hyperparameter 'theta4' name = 'logit correlation12'

```

short.name = 'cor12'
initial = '0'
fixed = 'FALSE'
prior = 'none'
param = ''
to.theta = 'function(x) log((1+x)/(1-x))'
from.theta = 'function(x) 2*exp(x)/(1+exp(x))-1'

```

Hyperparameter 'theta5' name = 'logit correlation13'

```

short.name = 'cor13'
initial = '0'
fixed = 'FALSE'
prior = 'none'
param = ''
to.theta = 'function(x) log((1+x)/(1-x))'
from.theta = 'function(x) 2*exp(x)/(1+exp(x))-1'
Hyperparameter 'theta6' name = 'logit correlation23'
short.name = 'cor23'
initial = '0'
fixed = 'FALSE'
prior = 'none'
param = ''
to.theta = 'function(x) log((1+x)/(1-x))'
from.theta = 'function(x) 2*exp(x)/(1+exp(x))-1'
Properties: constr = 'FALSE'
nrow.ncol = 'FALSE'
augmented = 'TRUE'
aug.factor = '1'
aug.constr = '1 2 3'
n.div.by = '3'
n.required = 'TRUE'
set.default.values = 'TRUE'

```

Model '2diid'. Number of hyperparameters are 3.

```

Hyperparameter 'theta1' name = 'log precision1'
short.name = 'prec1'
initial = '4'
fixed = 'FALSE'
prior = 'loggamma'
param = '1 5e-05'
to.theta = 'function(x) log(x)'
from.theta = 'function(x) exp(x)'
Hyperparameter 'theta2' name = 'log precision2'
short.name = 'prec2'
initial = '4'
fixed = 'FALSE'
prior = 'loggamma'
param = '1 5e-05'
to.theta = 'function(x) log(x)'
from.theta = 'function(x) exp(x)'
Hyperparameter 'theta3' name = 'correlation'
short.name = 'cor'
initial = '4'
fixed = 'FALSE'
prior = 'normal'

```

```

param = '0 0.15'
to.theta = 'function(x) log((1+x)/(1-x))'
from.theta = 'function(x) 2*exp(x)/(1+exp(x))-1'

```

Properties: `constr = 'FALSE'`

```

nrow.ncol = 'FALSE'
augmented = 'FALSE'
aug.factor = '1'
aug.constr = '1 2'
n.div.by = '2'
n.required = 'TRUE'
set.default.values = 'TRUE'

```

Model 'z'. Number of hyperparameters are 1.

Hyperparameter 'theta' name = 'log precision'

```

short.name = 'prec'
initial = '4'
fixed = 'FALSE'
prior = 'loggamma'
param = '1 5e-05'
to.theta = 'function(x) log(x)'
from.theta = 'function(x) exp(x)'

```

Properties: `constr = 'FALSE'`

```

nrow.ncol = 'FALSE'
augmented = 'FALSE'
aug.factor = '1'
aug.constr = 'NULL'
n.div.by = 'NULL'
n.required = 'FALSE'
set.default.values = 'FALSE'

```

Model 'rw2d'. Number of hyperparameters are 1.

Hyperparameter 'theta' name = 'log precision'

```

short.name = 'prec'
initial = '4'
fixed = 'FALSE'
prior = 'loggamma'
param = '1 5e-05'
to.theta = 'function(x) log(x)'
from.theta = 'function(x) exp(x)'

```

Properties: `constr = 'TRUE'`

```

nrow.ncol = 'TRUE'
augmented = 'FALSE'
aug.factor = '1'
aug.constr = 'NULL'
n.div.by = 'NULL'
n.required = 'FALSE'
set.default.values = 'TRUE'

```

Model ‘matern2d’. Number of hyperparameters are 2.

Hyperparameter ‘theta1’ name = ‘log precision’

```
short.name = ‘prec’
initial = ‘4’
fixed = ‘FALSE’
prior = ‘loggamma’
param = ‘1 5e-05’
to.theta = ‘function(x) log(x)’
from.theta = ‘function(x) exp(x)’
```

Hyperparameter ‘theta2’ name = ‘log range’

```
short.name = ‘range’
initial = ‘2’
fixed = ‘FALSE’
prior = ‘loggamma’
param = ‘1 0.01’
to.theta = ‘function(x) log(x)’
from.theta = ‘function(x) exp(x)’
```

Properties: constr = ‘TRUE’

```
nrow.ncol = ‘TRUE’
augmented = ‘FALSE’
aug.factor = ‘1’
aug.constr = ‘NULL’
n.div.by = ‘NULL’
n.required = ‘FALSE’
set.default.values = ‘TRUE’
```

Model ‘copy’. Number of hyperparameters are 1.

Hyperparameter ‘theta’ name = ‘beta’

```
short.name = ‘b’
initial = ‘1’
fixed = ‘TRUE’
prior = ‘normal’
param = ‘1 10’
to.theta = ‘function(x, low = -Inf, high = Inf) {} if (low ==
  -Inf && high == Inf) {} return (x) else {} stopifnot((low
  != -Inf) && (high != Inf) && (low < high)) return (log(
  - (low - x)/(high - x)))’,
from.theta = ‘function(x, low = -Inf, high = Inf) {} if (low
  == -Inf && high == Inf) {} return (x) else {} stopifnot((low
  != -Inf) && (high != Inf) && (low < high)) return (low
  + exp(x)/(1+exp(x)) * (high - low))’
```

Properties: constr = ‘FALSE’

```
nrow.ncol = ‘FALSE’
augmented = ‘FALSE’
aug.factor = ‘1’
aug.constr = ‘NULL’
n.div.by = ‘NULL’
```

```
n.required = 'FALSE'
set.default.values = 'FALSE'
```

Section ‘group’. Valid models in this section are:

Model ‘exchangeable’. Number of hyperparameters are 1.

```
Hyperparameter ‘theta’ name = ‘logit correlation’
short.name = ‘rho’
initial = ‘1’
fixed = ‘FALSE’
prior = ‘normal’
param = ‘0 0.15’
to.theta = ‘function(x) log((1+x)/(1-x))’
from.theta = ‘function(x) 2*exp(x)/(1+exp(x))-1’
```

Properties:

Model ‘ar1’. Number of hyperparameters are 1.

```
Hyperparameter ‘theta’ name = ‘logit correlation’
short.name = ‘rho’
initial = ‘2’
fixed = ‘FALSE’
prior = ‘normal’
param = ‘0 0.15’
to.theta = ‘function(x) log((1+x)/(1-x))’
from.theta = ‘function(x) 2*exp(x)/(1+exp(x))-1’
```

Properties:

Section ‘predictor’. Valid models in this section are:

Model ‘predictor’. Number of hyperparameters are 1.

```
Hyperparameter ‘theta’ name = ‘log precision’
short.name = ‘prec’
initial = ‘11’
fixed = ‘TRUE’
prior = ‘loggamma’
param = ‘1 1e-05’
to.theta = ‘function(x) log(x)’
from.theta = ‘function(x) exp(x)’
```

Properties:

Section ‘hazard’. Valid models in this section are:

Model ‘rw1’. Number of hyperparameters are 1.

```
Hyperparameter ‘theta’ name = ‘log precision’
short.name = ‘prec’
initial = ‘4’
fixed = ‘FALSE’
prior = ‘loggamma’
param = ‘1 5e-05’
to.theta = ‘function(x) log(x)’
from.theta = ‘function(x) exp(x)’
```

Properties:

Model ‘rw2’. Number of hyperparameters are 1.

Hyperparameter ‘theta’ name = ‘log precision’

```
short.name = ‘prec’
initial = ‘4’
fixed = ‘FALSE’
prior = ‘loggamma’
param = ‘1 5e-05’
to.theta = ‘function(x) log(x)’
from.theta = ‘function(x) exp(x)’
```

Properties:

Section ‘likelihood’. Valid models in this section are:

Model ‘poisson’. Number of hyperparameters are 0.

Model ‘binomial’. Number of hyperparameters are 0.

Model ‘nbinomial’. Number of hyperparameters are 1.

Hyperparameter ‘theta’ name = ‘size’

```
short.name = ‘size’
initial = ‘2.30258509299405’
fixed = ‘FALSE’
prior = ‘loggamma’
param = ‘1 100’
to.theta = ‘function(x) log(x)’
from.theta = ‘function(x) exp(x)’
```

Properties: survival = ‘FALSE’

discrete = ‘TRUE’

Model ‘exponential’. Number of hyperparameters are 0.

Model ‘coxph’. Number of hyperparameters are 0.

Model ‘gaussian’. Number of hyperparameters are 1.

Hyperparameter ‘theta’ name = ‘log precision’

```
short.name = ‘prec’
initial = ‘4’
fixed = ‘FALSE’
prior = ‘loggamma’
param = ‘1 5e-05’
to.theta = ‘function(x) log(x)’
from.theta = ‘function(x) exp(x)’
```

Properties: survival = ‘FALSE’

discrete = ‘FALSE’

Model ‘normal’. Number of hyperparameters are 1.

Hyperparameter ‘theta’ name = ‘log precision’

```
short.name = ‘prec’
initial = ‘4’
fixed = ‘FALSE’
prior = ‘loggamma’
param = ‘1 5e-05’
```

```

    to.theta = 'function(x) log(x)'
    from.theta = 'function(x) exp(x)'
Properties: survival = 'FALSE'
    discrete = 'FALSE'
Model 'skewnormal'. Number of hyperparameters are 2.
    Hyperparameter 'theta1' name = 'inverse.scale'
        short.name = 'iscale'
        initial = '4'
        fixed = 'FALSE'
        prior = 'loggamma'
        param = '1 5e-05'
    Hyperparameter 'theta2' name = 'skewness'
        short.name = 'skew'
        initial = '4'
        fixed = 'FALSE'
        prior = 'gaussian'
        param = '0 10'
Properties: survival = 'FALSE'
    discrete = 'FALSE'
Model 'sn'. Number of hyperparameters are 2.
    Hyperparameter 'theta1' name = 'log inverse scale'
        short.name = 'iscale'
        initial = '4'
        fixed = 'FALSE'
        prior = 'loggamma'
        param = '1 5e-05'
    Hyperparameter 'theta2' name = 'logit skewness'
        short.name = 'skew'
        initial = '4'
        fixed = 'FALSE'
        prior = 'gaussian'
        param = '0 10'
    to.theta = 'function(x, shape.max = 1) log((1+x/shape.max)/(1-
        x/shape.max))'
    from.theta = 'function(x, shape.max = 1) shape.max*(2*exp(x)/(1+exp(x))-
        1)'
Properties: survival = 'FALSE'
    discrete = 'FALSE'
Model 'gev'. Number of hyperparameters are 2.
    Hyperparameter 'theta1' name = 'log precision'
        short.name = 'prec'
        initial = '4'
        fixed = 'FALSE'
        prior = 'loggamma'
        param = '1 5e-05'

```

```

    to.theta = 'function(x) log(x)'
    from.theta = 'function(x) exp(x)'
Hyperparameter 'theta2' name = 'gev parameter'
    short.name = 'gev'
    initial = '0'
    fixed = 'FALSE'
    prior = 'gaussian'
    param = '0 6.25'
    to.theta = 'function(x) x'
    from.theta = 'function(x) x'
Properties: survival = 'FALSE'
    discrete = 'FALSE'
Model 'laplace'. Number of hyperparameters are 1.
Hyperparameter 'theta' name = 'log precision'
    short.name = 'prec'
    initial = '4'
    fixed = 'FALSE'
    prior = 'loggamma'
    param = '1 5e-05'
    to.theta = 'function(x) log(x)'
    from.theta = 'function(x) exp(x)'
Properties: survival = 'FALSE'
    discrete = 'FALSE'
Model 'weibull'. Number of hyperparameters are 1.
Hyperparameter 'theta' name = 'log alpha'
    short.name = 'a'
    initial = '0'
    fixed = 'FALSE'
    prior = 'loggamma'
    param = '25 25'
    to.theta = 'function(x) log(x)'
    from.theta = 'function(x) exp(x)'
Properties: survival = 'TRUE'
    discrete = 'FALSE'
Model 'weibullcure'. Number of hyperparameters are 2.
Hyperparameter 'theta1' name = 'log alpha'
    short.name = 'a'
    initial = '4'
    fixed = 'FALSE'
    prior = 'loggamma'
    param = '25 25'
    to.theta = 'function(x) log(x)'
    from.theta = 'function(x) exp(x)'
Hyperparameter 'theta2' name = 'logit probability'
    short.name = 'prob'

```



```

initial = '-1'
fixed = 'FALSE'
prior = 'gaussian'
param = '-1 0.2'
to.theta = 'function(x) log(x/(1-x))'
from.theta = 'function(x) exp(x)/(1+exp(x))'

```

Properties: **survival** = 'TRUE'

discrete = 'FALSE'

Model 'stochvol'. Number of hyperparameters are 0.

Model 'stochvolt'. Number of hyperparameters are 1.

Hyperparameter 'theta' name = 'log degrees of freedom'

short.name = 'dof'

initial = '4'

fixed = 'FALSE'

prior = 'loggamma'

param = '1 0.5'

to.theta = 'function(x) log(x-2)'

from.theta = 'function(x) 2+exp(x)'

Properties: **survival** = 'FALSE'

discrete = 'FALSE'

Model 'stochvolnig'. Number of hyperparameters are 2.

Hyperparameter 'theta1' name = 'skewness'

short.name = 'skew'

initial = '0'

fixed = 'FALSE'

prior = 'gaussian'

param = '0 10'

to.theta = 'function(x) x'

from.theta = 'function(x) x'

Hyperparameter 'theta2' name = 'shape'

short.name = 'shape'

initial = '0'

fixed = 'FALSE'

prior = 'loggamma'

param = '1 0.5'

to.theta = 'function(x) log(x-1)'

from.theta = 'function(x) 1+exp(x)'

Properties: **survival** = 'FALSE'

discrete = 'FALSE'

Model 'zeroinflatedpoisson0'. Number of hyperparameters are 1.

Hyperparameter 'theta' name = 'logit probability'

short.name = 'prob'

initial = '-1'

fixed = 'FALSE'

prior = 'gaussian'

```

param = '-1 0.2'
to.theta = 'function(x) log(x/(1-x))'
from.theta = 'function(x) exp(x)/(1+exp(x))'

```

Properties: survival = 'FALSE'

discrete = 'FALSE'

Model 'zeroinflatedpoisson1'. Number of hyperparameters are 1.

Hyperparameter 'theta' name = 'logit probability'

short.name = 'prob'

initial = '-1'

fixed = 'FALSE'

prior = 'gaussian'

param = '-1 0.2'

to.theta = 'function(x) log(x/(1-x))'

from.theta = 'function(x) exp(x)/(1+exp(x))'

Properties: survival = 'FALSE'

discrete = 'FALSE'

Model 'zeroinflatedpoisson2'. Number of hyperparameters are 1.

Hyperparameter 'theta' name = 'logit probability'

short.name = 'prob'

initial = '-1'

fixed = 'FALSE'

prior = 'gaussian'

param = '-1 0.2'

to.theta = 'function(x) log(x/(1-x))'

from.theta = 'function(x) exp(x)/(1+exp(x))'

Properties: survival = 'FALSE'

discrete = 'FALSE'

Model 'zeroinflatedbinomial0'. Number of hyperparameters are 1.

Hyperparameter 'theta' name = 'logit probability'

short.name = 'prob'

initial = '-1'

fixed = 'FALSE'

prior = 'gaussian'

param = '-1 0.2'

to.theta = 'function(x) log(x/(1-x))'

from.theta = 'function(x) exp(x)/(1+exp(x))'

Properties: survival = 'FALSE'

discrete = 'FALSE'

Model 'zeroinflatedbinomial1'. Number of hyperparameters are 1.

Hyperparameter 'theta' name = 'logit probability'

short.name = 'prob'

initial = '-1'

fixed = 'FALSE'

prior = 'gaussian'

param = '-1 0.2'

```

    to.theta = 'function(x) log(x/(1-x))'
    from.theta = 'function(x) exp(x)/(1+exp(x))'
Properties: survival = 'FALSE'
    discrete = 'FALSE'
Model 'zeroinflatedbinomial2'. Number of hyperparameters are 1.
  Hyperparameter 'theta' name = 'logit probability'
    short.name = 'prob'
    initial = '-1'
    fixed = 'FALSE'
    prior = 'gaussian'
    param = '-1 0.2'
    to.theta = 'function(x) log(x/(1-x))'
    from.theta = 'function(x) exp(x)/(1+exp(x))'
Properties: survival = 'FALSE'
    discrete = 'FALSE'
Model 'zeroinflatedbetabinomial2'. Number of hyperparameters are 2.
  Hyperparameter 'theta1' name = 'log alpha'
    short.name = 'a'
    initial = '0.693147180559945'
    fixed = 'FALSE'
    prior = 'gaussian'
    param = '0.693147180559945 1'
    to.theta = 'function(x) log(x)'
    from.theta = 'function(x) exp(x)'
  Hyperparameter 'theta2' name = 'beta'
    short.name = 'b'
    initial = '0'
    fixed = 'FALSE'
    prior = 'gaussian'
    param = '0 1'
    to.theta = 'function(x) log(x)'
    from.theta = 'function(x) exp(x)'
Properties: survival = 'FALSE'
    discrete = 'FALSE'
Model 'zeroinflatednbinomial0'. Number of hyperparameters are 2.
  Hyperparameter 'theta1' name = 'log size'
    short.name = 'size'
    initial = '2.30258509299405'
    fixed = 'FALSE'
    prior = 'loggamma'
    param = '1 1'
    to.theta = 'function(x) log(x)'
    from.theta = 'function(x) exp(x)'
  Hyperparameter 'theta2' name = 'logit probability'
    short.name = 'prob'

```

```

initial = '-1'
fixed = 'FALSE'
prior = 'gaussian'
param = '-1 0.2'
to.theta = 'function(x) log(x/(1-x))'
from.theta = 'function(x) exp(x)/(1+exp(x))'

```

Properties: survival = 'FALSE'

discrete = 'FALSE'

Model 'zeroinflatednbinomial1'. Number of hyperparameters are 2.

Hyperparameter 'theta1' name = 'log size'

```

short.name = 'size'
initial = '2.30258509299405'
fixed = 'FALSE'
prior = 'loggamma'
param = '1 1'
to.theta = 'function(x) log(x)'
from.theta = 'function(x) exp(x)'

```

Hyperparameter 'theta2' name = 'logit probability'

```

short.name = 'prob'
initial = '-1'
fixed = 'FALSE'
prior = 'gaussian'
param = '-1 0.2'
to.theta = 'function(x) log(x/(1-x))'
from.theta = 'function(x) exp(x)/(1+exp(x))'

```

Properties: survival = 'FALSE'

discrete = 'FALSE'

Model 'zeroinflatednbinomial2'. Number of hyperparameters are 2.

Hyperparameter 'theta1' name = 'log size'

```

short.name = 'size'
initial = '2.30258509299405'
fixed = 'FALSE'
prior = 'loggamma'
param = '1 1'
to.theta = 'function(x) log(x)'
from.theta = 'function(x) exp(x)'

```

Hyperparameter 'theta2' name = 'log alpha'

```

short.name = 'a'
initial = '0.693147180559945'
fixed = 'FALSE'
prior = 'gaussian'
param = '2 1'
to.theta = 'function(x) log(x)'
from.theta = 'function(x) exp(x)'

```

Properties: survival = 'FALSE'

discrete = 'FALSE'

Model 't'. Number of hyperparameters are 2.

Hyperparameter 'theta1' name = 'log precision'

short.name = 'prec'

initial = '4'

fixed = 'FALSE'

prior = 'loggamma'

param = '1 5e-05'

to.theta = 'function(x) log(x)'

from.theta = 'function(x) exp(x)'

Hyperparameter 'theta2' name = 'log degrees of freedom'

short.name = 'dof'

initial = '4'

fixed = 'FALSE'

prior = 'loggamma'

param = '1 0.5'

to.theta = 'function(x) log(x-2)'

from.theta = 'function(x) 2+exp(x)'

Properties: survival = 'FALSE'

discrete = 'FALSE'

Model 'logperiodogram'. Number of hyperparameters are 0.

Section 'prior'. Valid models in this section are:

Model 'normal'. Number of parameters in the prior = 2

Model 'gaussian'. Number of parameters in the prior = 2

Model 'wishart1d'. Number of parameters in the prior = 2

Model 'wishart2d'. Number of parameters in the prior = 4

Model 'wishart3d'. Number of parameters in the prior = 7

Model 'loggamma'. Number of parameters in the prior = 2

Model 'minuslogsqrtruncnormal'. Number of parameters in the prior = 1

Model 'logtnormal'. Number of parameters in the prior = 1

Model 'logtgaussian'. Number of parameters in the prior = 1

Model 'flat'. Number of parameters in the prior = 0

Model 'logflat'. Number of parameters in the prior = 0

Model 'logiflat'. Number of parameters in the prior = 0

Model 'none'. Number of parameters in the prior = 0

Section 'wrapper'. Valid models in this section are:

Model 'joint'. Number of hyperparameters are 1.

Hyperparameter 'theta' name = 'log precision'

short.name = 'prec'

initial = '0'

fixed = 'TRUE'

prior = 'loggamma'

param = '1 5e-05'

to.theta = 'function(x) log(x)'

from.theta = 'function(x) exp(x)'

```
Properties: constr = 'FALSE'  
nrow.ncol = 'FALSE'  
augmented = 'FALSE'  
aug.factor = '1'  
aug.constr = 'NULL'  
n.div.by = 'NULL'  
n.required = 'FALSE'  
set.default.values = 'FALSE'
```

Examples

```
## How to set hyperparameters to pass as the argument 'hyper'. This  
## format is compatible with the old style (using 'initial', 'fixed',  
## 'prior', 'param'), but the new style using 'hyper' take precedence  
## over the old style. The two styles can also be mixed. The old style  
## might be removed from the code in the future...  
  
## Only a subset need to be given  
hyper = list(theta = list(initial = 2))  
## The 'name' can be used instead of 'theta', or 'thetal', 'theta2',...  
hyper = list(precision = list(initial = 2))  
hyper = list(precision = list(prior = "flat", param = numeric(0)))  
hyper = list(theta2 = list(initial=3), thetal = list(prior = "gaussian"))  
## The 'short.name' can be used instead of 'name'  
hyper = list(rho = list(param = c(0,1)))
```

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