Flat prior

Parametrization

The flat prior has density

$$\pi(\theta) \propto 1 \tag{1}$$

for continuous θ.

Specification

The flat prior for the hyperparameters is specified inside the `f()` function as the following using the old style:

```
f(<whatever>,prior="flat")
```

or better, the new style

```
f(<whatever>, hyper = list( <theta> = list(prior="flat", param = numeric())))
```

In the case where there is one hyperparameter for that particular f-model. In the case where we want to specify the prior for the hyperparameter of an observation model, for example the negative Binomial, the the prior spesification will appear inside the control.data()-argument; see the following example for illustration.

Example

In the following example we estimate the parameters in a simulated example with gaussian responses and assign for the log-precision $\log \tau$, a flat prior; see the Notes.

```
n=100
z=rnorm(n)
y=rnorm(n,z,1)
data=list(y=y,z=z)
formula=y~1+z
result=inla(formula,family="gaussian",data=data,control.data=list(prior="flat"))
```

Notes

The `inla` program uses $\pi(\theta) = 1$ for computations. Note that for precision τ, a flat prior for $\log \tau$ corresponds to the prior $1/\tau$ for τ.