The PC prior for the correlation ρ with $\rho = 0$ base-model

Parametrization

This prior is the PC prior for the correlation ρ with $\rho = 0$ as the base-model.. The density for ρ is

$$\pi(\rho) = \lambda \exp(-\lambda \mu(\rho))\ J(\rho)$$

where

$$\mu(\rho) = \sqrt{-\log(1-\rho^2)}$$

and

$$J(\rho) = \frac{|\rho|}{\mu(\rho)(1-\rho^2)}.$$

The parameter λ is defined through

$$\text{Prob}(|\rho| > u) = \alpha, \qquad 0 \le u < 1, \quad 0 < \alpha < 1$$

where (u, α) are the parameters to this prior. The solution is explicite

$$\lambda = -\log(\alpha)/\mu(u).$$

Specification

This prior for the hyperparameters is specified inside the `hyper`-spesification, as

```
hyper = list(<theta> = list(prior="pc.rho0", param=c(<u>,<alpha>)))
```

Example

Notes