

R documentation

of 'covNoise.Rd'

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covNoise

Independent noise function.

Description

Independent covariance function, ie "white noise", with specified variance.

This covariance function is parameterized as: $k(x^p, x^q) = s2 * \text{solve}(\text{delta}(p, q))$, in which $s2$ is the noise variance and $\text{solve}(\text{delta}(p, q))$ is a Kronecker delta function where is 1 if $p==q$ and its zero otherwise. hyperparameter and is defined by: `loghyper = [log(sqrt(s2))]`

Usage

```
covNoise(loghyper= NULL , x = NULL , z = NULL, testset.covariances= FALSE)
```

Arguments

<code>loghyper</code>	loghyper is hyperparameter vector variable.
<code>x</code>	Input parameter array to define the function over.
<code>z</code>	Index number of loghyper vector.
<code>testset.covariances</code>	Logic value to decide to compute testset covariances or not.

Value

If `z` is not null and `testset.covariances` is TRUE this function calculates test set covariances and if its FALSE the function computes derivative matrix. When `covNoise` is called without parameters is reports the minimum number of parameters other than `loghyper` which it can accept. The output of this function is a list consisting variables `A` and `B`. `B` will include testset covariances calculation when `testset.covariances` is TRUE.

Author(s)

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References

Carl Edward Rasmussen and Christopher K. I. Williams. Gaussian Processes for Machine Learning. *MIT Press*, 2006. ISBN 0-262-18253-X. Carl Edward Rasmussen & Hannes Nickisch. gpml(GAUSSIAN PROCESS REGRESSION AND CLASSIFICATION Toolbox) Matlab Library.

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