

Block DISWEI

The DISWEI block calculates the Weibull distribution.



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Inputs

- 1 Independent variable x

Outputs

- 1 Probability density $p(x)$

Parameters

- 1 Scale parameter a
- 2 Shape parameter k

Strings

None

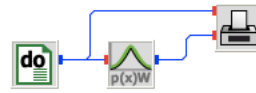
Description

The Weibull distribution is defined by the probability density function

$$p(x) = \frac{k}{a} \left(\frac{x}{a} \right)^{k-1} \exp \left(-\frac{x^k}{a^k} \right) \quad (1)$$

For $k = 2$ the Weibull distribution degenerates to the Rayleigh distribution, and for $k = 1$ equals the exponential distribution.

diswei.vseit



A **DO** block varies x from 0 to 5 in steps of 0.01. The **DISWEI** block calculates the Weibull distribution with scale parameter one and shape parameter two which is plotted by a **PLOT** block.

