Block FITWEI

The FITWEI block approximates the input data by a Weibull distribution.



Name	FITWEI
Function	fb0059
Inputs	1
Outputs	2
Parameters	0
Strings	0
Group	I

Inputs

1 Any value x

Outputs

1 Scale parameter a
2 Shape parameter k

Parameters

None

Strings

None

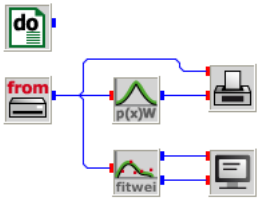
Description

The blocks input data are approximated by the Weibull distribution.

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

where a denotes the scale parameter and k the shape parameter. The successors of this block are executed only at the end of the simulation run.

fitwei.vseit

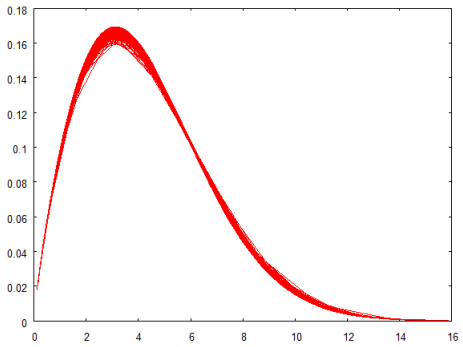


A DO block runs through the 8760 hours of a year to trigger a READ block which reads all records of the file `vwBerlin.dat`, saved in the `examples/data` directory. This file contains wind speed data which have been generated by the GENV block.

The FITWEI block determines the shape and scale parameters of the Weibull distribution, which are displayed by a SCREEN block.

```
4.80069113   1.83100331
```

Assuming that the result is already known ($a = 4.8007$ and $k = 1.831$) the Weibull distribution is calculated by a DISWEI block and plotted by a PLOT block.



Remark Please observe that the "thick" shape of the graph as displayed by the PLOT block is due to the fact, that all data points are connected by a straight line by default.