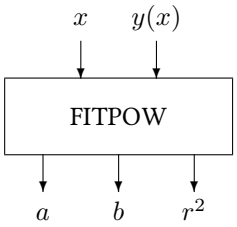
Block FITPOW

The FITPOW block approximates the input data by a power function.





Name	FITPOW
Function	fb0036
Inputs	2
Outputs	3
Parameters	0
Strings	0
Group	I

Inputs

1 Any value x
2 Corresponding $y(x)$ value

Outputs

1 Fit coefficient a
2 Fit coefficient b
3 Regression coefficient r^2

Parameters

None

Strings

None

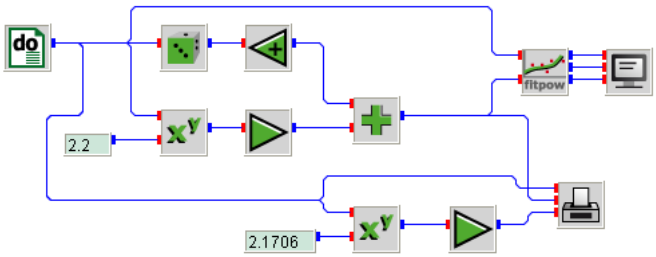
Description

The blocks input data are approximated by the power function

$$y = ax^b$$

The successors of this block are executed only at the end of the simulation run.

fitpow.vseit



A DO block runs x values from 1 to 10 in steps of 0.01. The data are used by an EXPG block with exponent 2.2 as defined by a connected CONST block. The result is multiplied by a factor 0.08 by a GAIN block. Some noise is generated in the upper part of the block diagram and added to $0.08\,x^{2.2}$. This signal is used by the FITPOW block.

The noise is generated by a RAN1 block with an offset of -0.5 calculated by the OFFSET block.

The outputs a, b, and r^2 are displayed numerically by a SCREEN block.

```
8.29010606E-02   2.1706350      0.88110483
```

Assuming that the result is already known ($a = 0.0829$ and $b = 2.1706$) the logarithmic equation $y' = ax^b$ is calculated and plotted against the input data by a PLOT block.

