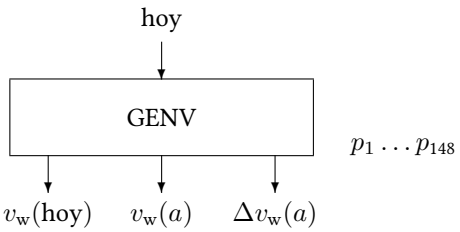
Block GENV

The GENV block generates hourly wind speed data for a specific site, based on the European Wind Atlas.





Name	GENV
Function	em0005
Inputs	1
Outputs	3
Parameters	148
Strings	0
Group	S

Inputs

1 Hour of year

Outputs

1 Hourly mean wind speed
2 Mean annual wind speed, calculated from BP(137..148)
3 Error of mean wind speed from generated values in per cent

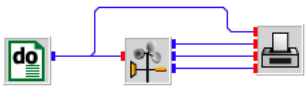
Parameters

1..96 Three-hour mean wind speed values
97..135 Power spectrum
136 Calibration factor
137..148 Monthly cubic mean wind speed data, uncalibrated

Strings

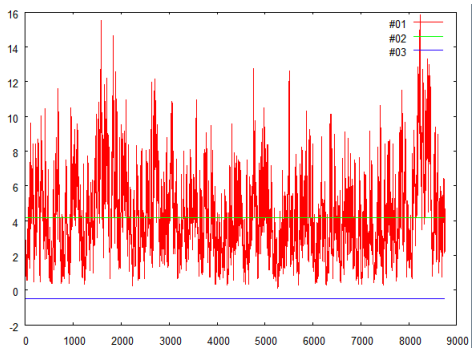
None

genv.vseit



A DO block runs through 8760 hours of a year and the GENV block calculates the wind speed time series for the location of Berlin, Germany.

The PLOT block displays the generated time series of hourly wind speed data, the annual mean wind speed and the deviation between the given annual mean wind speed and the corresponding generated mean value, which is below one percent, in this case.



Remark

The numerical method behind the GENV block is based on the European Wind Atlas. For about two hundred stations data have been published in the European Wind Atlas to satisfy the parameter requirements of the GENV block. These data can be found in the `resources/data/genv` directory of the INSEL installation directory.

It is not known, how well the method for the generation of wind speed data implemented in the GENV block can be used for Non-European sites.

Practical hints

The example presented above is simple. The problem is, how the parameters of the GENV block can be determined.

Up to now March 2014) there is no convenient way to paste the data into a VSEit model. A workaround could be to use a text editor and copy one of the locations in the `genv` directory into a file similar to `genv.ins` which can be found in the `resources/data/genv` directory, save it and use the Import .ins file function of the VSEit interface. The GENV block can then be copied from the imported `.ins` file and pasted into your application.