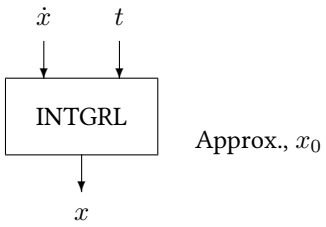
Block INTGRL

The INTGRL block calculates the integral of its input signal.





Name	INTGRL
Function	fb0065
Inputs	2
Outputs	1
Parameters	1
Strings	0
Group	D

Inputs

1 $\dot{x}$ Derivative of a signal x
2 Time t

Outputs

1 Integral approximation $x \approx \int_t^{t+\Delta t} x(t)\mathrm{d}t$

Parameters

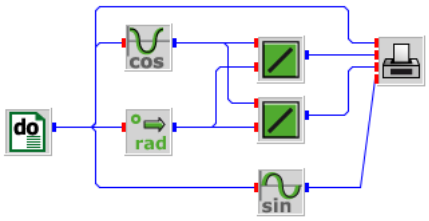
1 Integration method
- 0 Euler
- 1 Heun

2 Initial value x_0

Strings

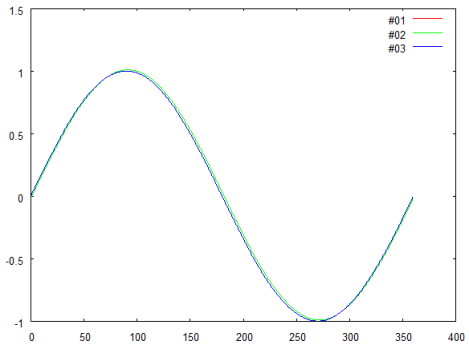
None

intgrl.vseit



A DO block varies an angle α from 0 to 360 degrees in steps of one degree and delivers it to the connected COS and DEG2RAD blocks. Both $\cos(\alpha)$ and α in radians are connected to the inputs of two INTGRL blocks with initial value zero, the upper one uses Euler's integration method, the lower one Heun's.

Since we know that $\int \cos(\alpha)\,\mathrm{d}\alpha = \sin(\alpha)$ a SIN block is used to compare the theoretical result with the two approximations. The result is shown by a PLOT block.



The curves can hardly be distinguished.