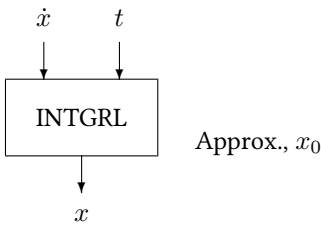


Block INTGRL

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 $x \approx \int_t^{t+\Delta t} x(t)dt$

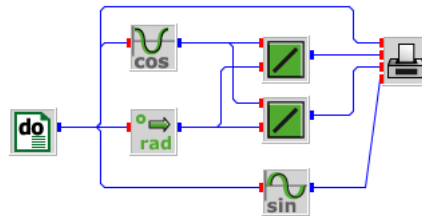
Parameters

- 1 Integration method
 - 0 Euler
 - 1 Heun
- 2 Initial value x_0

Strings

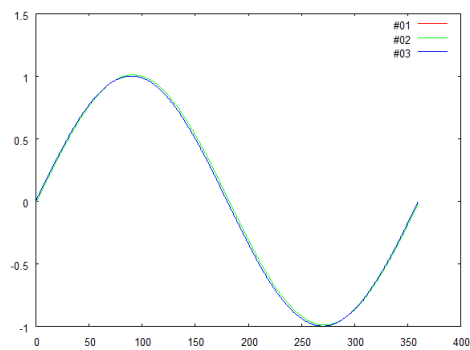
None

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 $\int \cos(\alpha) d\alpha = \sin(\alpha)$ 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.