triangle_3.xbe

Attributes

```
xbe name=triangle_3 evaluate=yes limit_tstep=yes
# triangle source
# similar to triangle_1; this is symmetric with frequency
# specified
Jacobian: constant
input_vars:
output_vars: y
aux_vars:
iparms:
sparms:
# L1 is the level at the beginning of the first interval
rparms:
+  frequency=1
+  L1=-1
+  L2=1
+  t0=0
+  slope1=0
+  slope2=0
+  epsl=0
+  T1=0
+  T2=0
+  T=0
stparms:
igparms:
outparms: y
```

Description

`triangle_3.xbe` is a symmetric triangle wave source with `y` as its output. The parameters have the following meaning:

`frequency:` specifies the frequency of the waveform. `y` goes from `L1` to `L2` in the first half period and from `L2` to `L1` in the second half period.

`t0:` An "offset" time interval by which the waveform is shifted (to the right).

The effect of the various paramters of `triangle_3.xbe` on $y(t)$ is shown in the following figures.

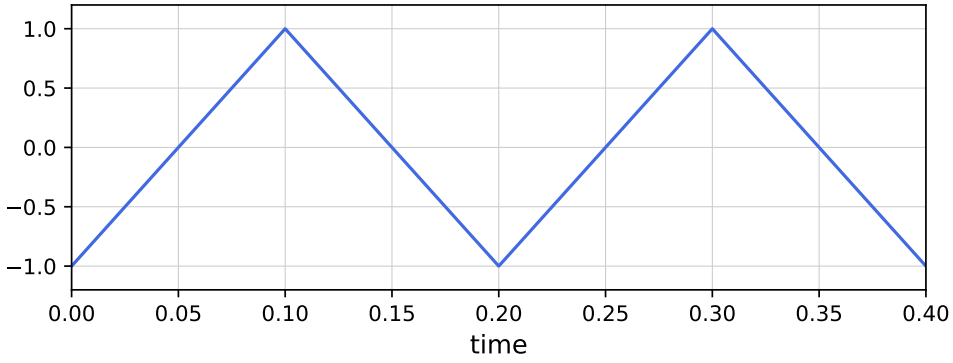

Figure 1: $y(t)$ obtained with `frequency` $= 5$, `L1` $= -1$, `L2` $= 1$, `t0` $= 0$.

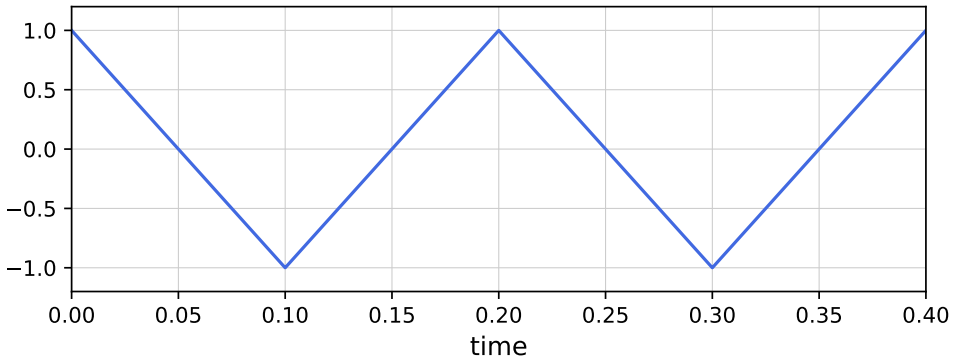

Figure 2: $y(t)$ obtained with `frequency` $= 5$, `L1` $= 1$, `L2` $= -1$, `t0` $= 0$.

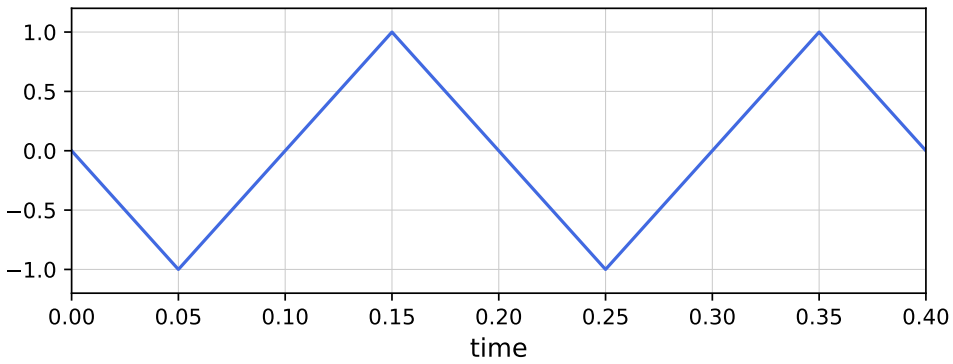

Figure 3: $y(t)$ obtained with `frequency` $= 5$, `L1` $= -1$, `L2` $= 1$, `t0` $= 0.5$.