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).

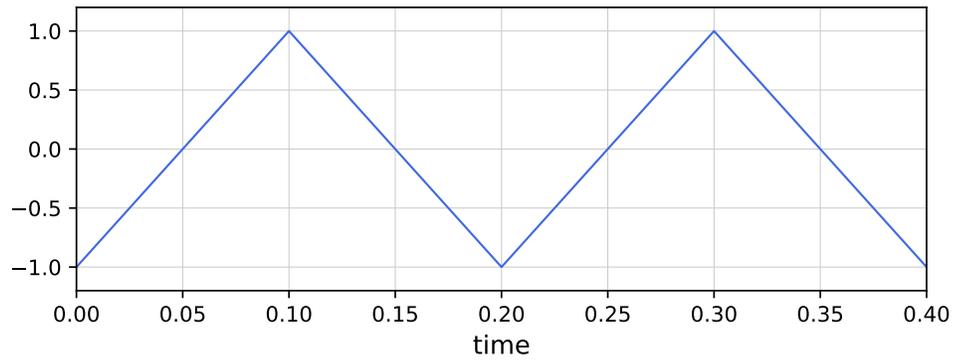The effect of the various paramters of triangle_3.xbe on $y(t)$ is shown in the following figures.

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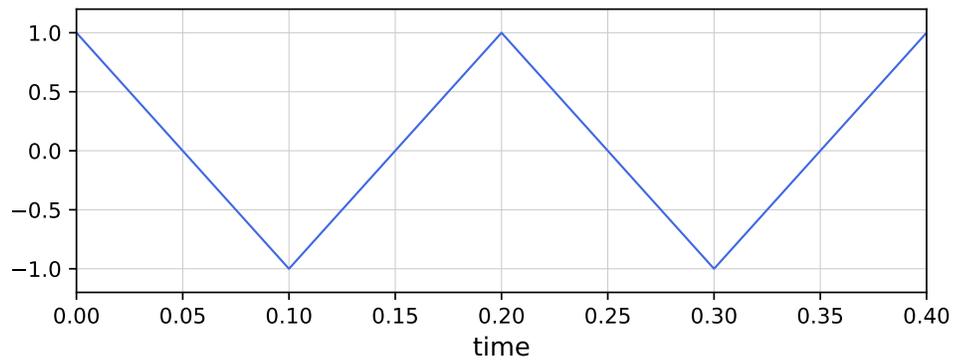

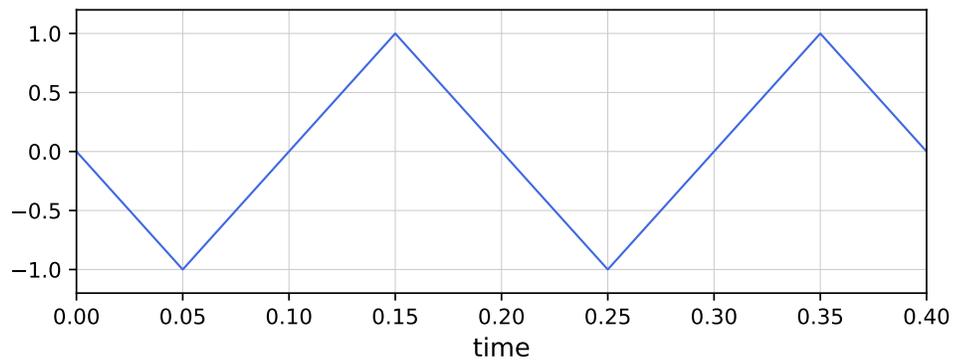Figure 2: $y(t)$ obtained with `frequency` $= 5$, L1 $= 1$, L2 $= -1$, t0 $= 0$.

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