pulse10.xbe

Attributes

```
xbe name=pulse10 evaluate=yes limit_tstep=yes
# pulses with up to 20 transitions (i.e., 10 pulses)
Jacobian: constant
input_vars:
output_vars: y
aux_vars:
iparms: i0=0 n1=2
sparms:
rparms:
+   t1 =1  t2 =2  t3 =3  t4 =4  t5 =5
+   t6 =6  t7 =7  t8 =8  t9 =9  t10=10
+   t11=11 t12=12 t13=13 t14=14 t15=15
+   t16=16 t17=17 t18=18 t19=19 t20=20
+   y_low=0 y_high=5 t_rise=10n t_fall=10n
+   epsl=0
stparms:
igparms:
outparms: y
```

Description

pulse10.xbe is used to generate up to 10 pulses (i.e., 20 transitions from 0 to 1 or 1 to 0). The parameters have the following meaning:

n1: Number of transitions.

t1,t2, etc.: Time of transition 1, 2, etc.

t_rise: Width of the low-to-high transition.

t_fall: Width of the high-to-low transition.

x_low: Low level.

y_low: High level.

i0: If i0 is 0, the first transition is from low to high; if i0 is 1, it is from high to low.

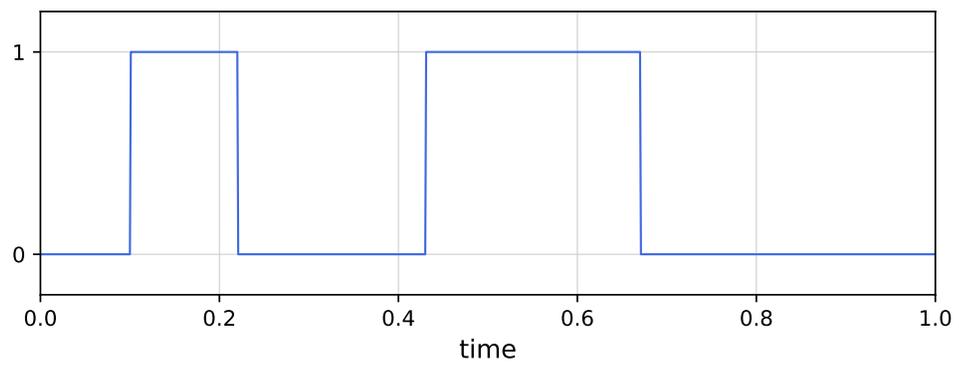The output y is made available as an output variable. An example is shown in the following figure.

Figure 1: $y(t)$ obtained with n1 = 4, i0 = 0, t1 = 0.1, t2 = 0.22, t3 = 0.43, t4 = 0.67, y_low = 0, y_high = 1, t_rise = 0.001, t_fall = 0.001.