pwl20.gce

Attributes

```
  mainvars: y
  iparms: n=2
  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
+   v1 =1  v2 =2  v3 =3  v4 =4  v5 =5
+   v6 =6  v7 =7  v8 =8  v9 =9  v10=10
+   v11=11 v12=12 v13=13 v14=14 v15=15
+   v16=16 v17=17 v18=18 v19=19 v20=20
```

Description

`pwl20.gce` is used to generate a piecewise linear waveform with up to 20 "break points". The general variable `y` serves as the output. The parameters have the following meaning:

`n`: Number of break points.

`t1`,`t2`, etc.: Time of break point 1, 2, etc.

`v1`,`v2`, etc.: Value of `y` at the corresponding break point. For example, `v2=3.5` means that the value of `y` at the 2^{nd} break point is 3.5. `y` is made constant (equal to `v1`) before `t1`. Also, `y` is made constant after the n^{th} break point.

AC behaviour is not implemented.

The effect of the various paramters of `pwl20.gce` on the waveforms is shown in Fig. 1. The corresponding circuit file (available as `pwl20_gce.in` in the examples directory) is reproduced below.

```
title: testing of pwl20

begin_circuit
   gelement type=pwl20
+     t1=1  t2=2  t3=4  t4=4.5  t5=7   t6=8
+     v1=0  v2=10 v3=10 v4=-10  v5=-10 v6=0
+     n=6 y=y
   outvar: y=var_of_y
end_circuit

begin_solve
   solve_type=startup
   initial_sol initialize
   method: t_startup=0
end_solve

begin_solve
   solve_type=trns
   initial_sol previous
   begin_output
      filename=pwl20_gce.dat
      variables: y
   end_output
   method: t_start=0 t_end=10.00
+     back_euler=yes delt_const=0.5
end_solve

end_cf
```

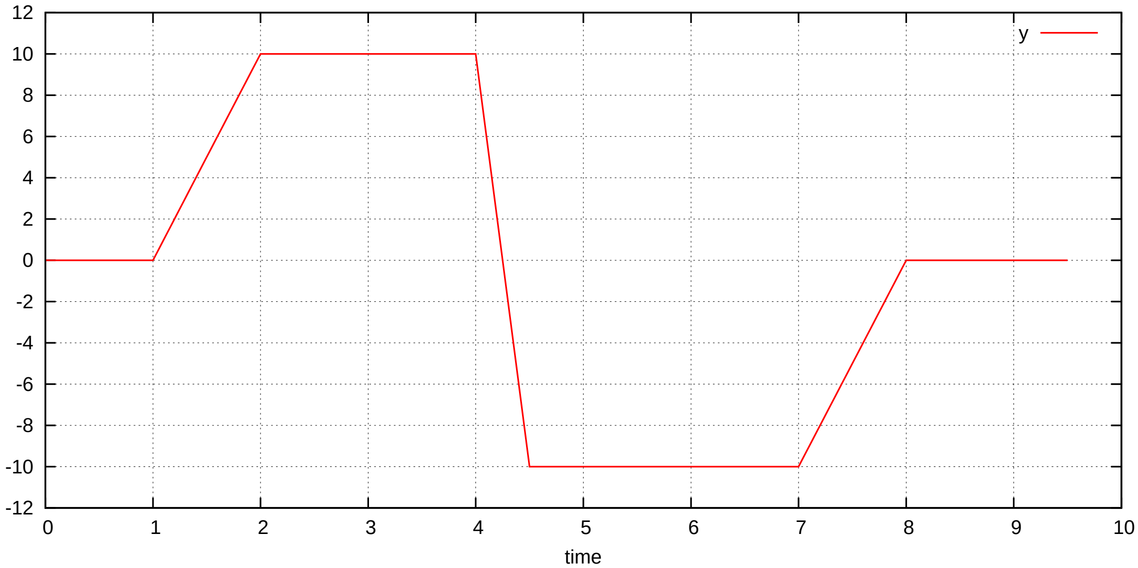

Figure 1: Waveforms obtained with `pwl20.gce` with `n`=6, `t1`=1, `t2`=2, `t3`=4, `t4`=4.5, `t5`=7, `t6`=8, `v1`=0, `v2`=10, `v3`=10, `v4`=-10, `v5`=-10, `v6`=0.