Using the electric field pulse function reported by Sakiyama et al., 2012, we define a pulse function for the electron temperature. The pulse peaks at 5 times the pulse duration; e.g. 5 ns. The temperature is only calculated until time equals 10 times tpulse; after that, it is set to gas temperature.

In[90]:=
```
tpulse = 10^-9; (*pulse duration is 1 ns as in Sakiyama et al. 2012*)
Tepeak = 2.6; (*peak electron temperature in eV*)
Tgas = 298; (*gas temperature in Kelvin*)

Pulse[t_] := If[t < 10 * tpulse,
  Tgas + (Tepeak * 11 605 - Tgas) * Exp[-0.5 * ((t - 5 * tpulse)/tpulse)^2],
  Tgas]

Plot[Pulse[t * tpulse] / 11 605, {t, 0, 25}, PlotRange → All,
 Frame → True, FrameLabel → {"Time (ns)", "Te (eV)"}]
```

Out[93]=