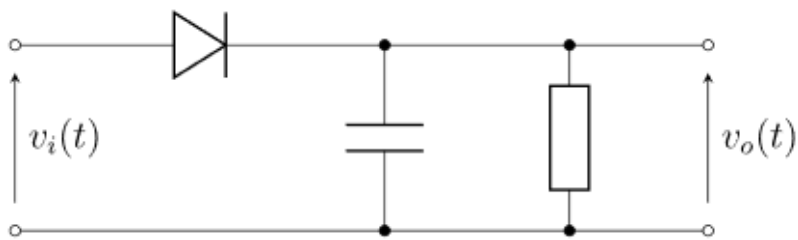


appVersion(4) = "0.99.6884.37264"

$R := 100$      $C := 1.5 \cdot 10^{-6}$

$I_0 := 1 \cdot 10^{-5}$

$i(u) := I_0 \cdot \left( \exp\left(\frac{u}{0.05}\right) - 1 \right)$



$f := 20 \cdot 10^3$      $F := 1 \cdot 10^3$      $U_m := 5$      $ma := 0.5$      $\omega := 2 \cdot \pi \cdot f$      $\Omega := 2 \cdot \pi \cdot F$

$u_{in}(t) := U_m \cdot (1 - ma \cdot \cos(\Omega \cdot t)) \cdot \sin(\omega \cdot t)$

$Eps := 10^{-3}$

$u_0 := 0$      $t_{min} := 0$      $t_{max} := 0.002$      $N := 10^3$

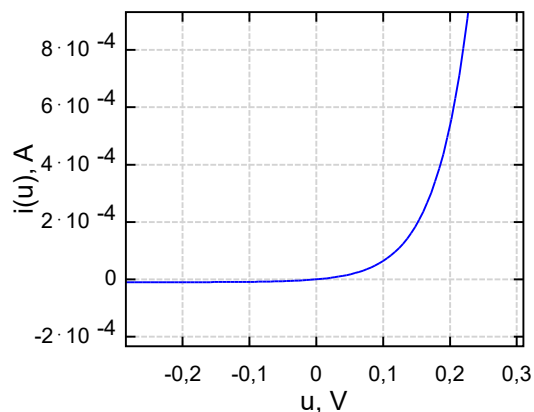
$D(t, u) := -\frac{u}{R \cdot C} + \frac{1}{C} \cdot (i(u_{in}(t) - u))$

$start := time(0)$

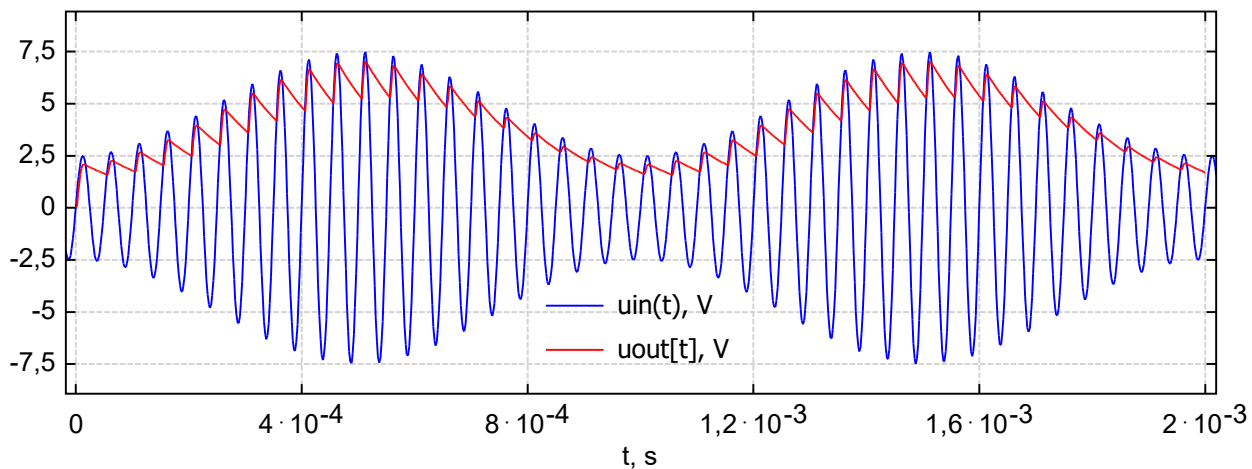
$u_{out} := al\_rkckadapt(u_0, t_{min}, t_{max}, N - 1, D)$

$time(0) - start = 0.948$  c

I-V curve



Amplitude detector



$\begin{cases} u_{in}(t) \\ u_{out} \end{cases}$