



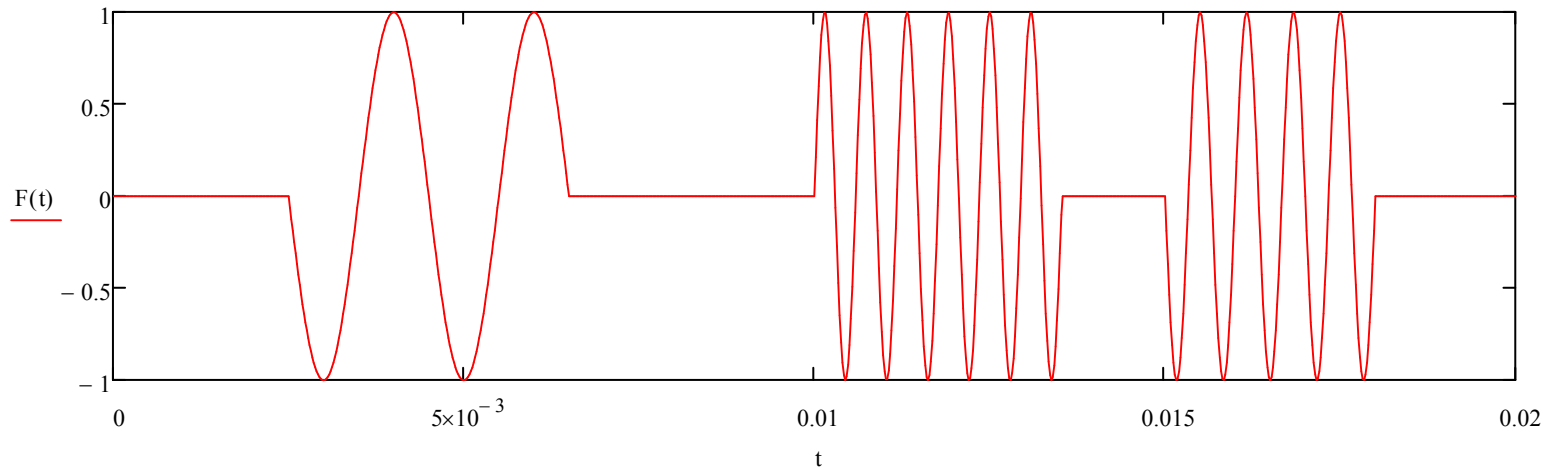
fourrier analyse TOL := 10<sup>-5</sup>

ml := 10<sup>-3</sup>    u := 10<sup>-6</sup>

F(t) :=  $\left( \begin{cases} \sin\left(2\cdot\pi\cdot500\cdot t + \frac{\pi}{2}\right) & \text{if } 0.0025 < t < 0.0065 \\ 0 & \text{otherwise} \end{cases} \right) + \begin{cases} \sin(2\cdot\pi\cdot1500\cdot t) & \text{if } 0.015 < t < 0.018 \\ 0 & \text{otherwise} \end{cases} + \begin{cases} \sin(2\cdot\pi\cdot1700\cdot t) & \text{if } 0.01 < t < 0.01353 \\ 0 & \text{otherwise} \end{cases}$

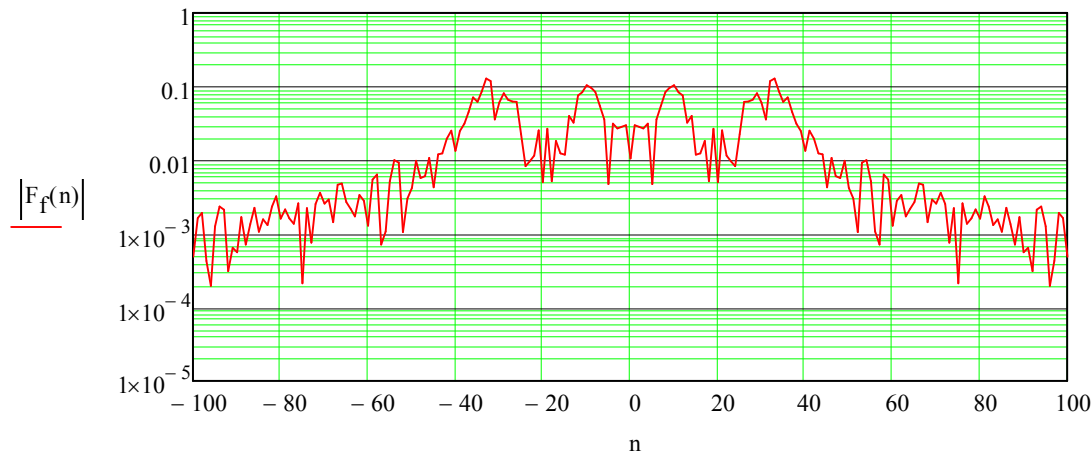
T :=  $\frac{1}{50}$     T = 20·ml

t := 0,20·u..20·ml



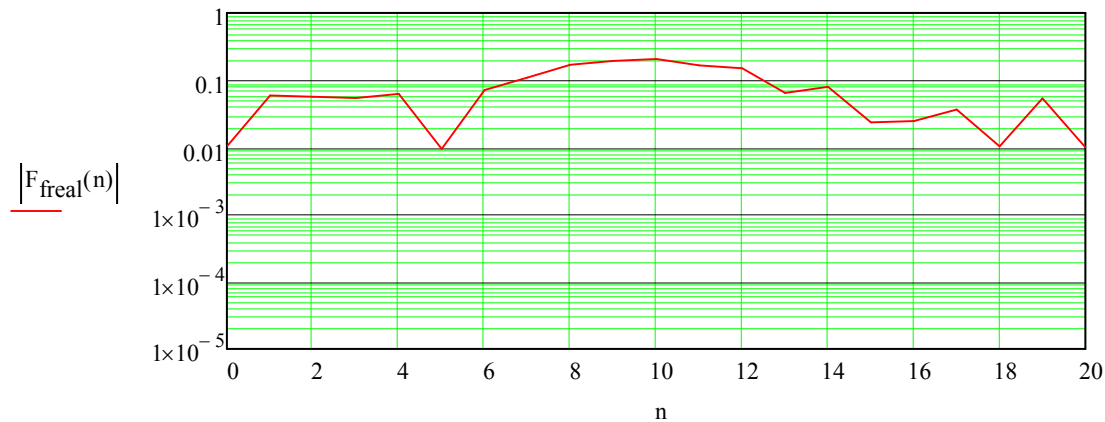
$F_f(n) := \frac{1}{T} \cdot \int_0^T F(t) \cdot e^{\frac{-i \cdot 2 \cdot \pi \cdot n \cdot t}{T}} dt$

n := -100,-99..100



n := 0,1..20

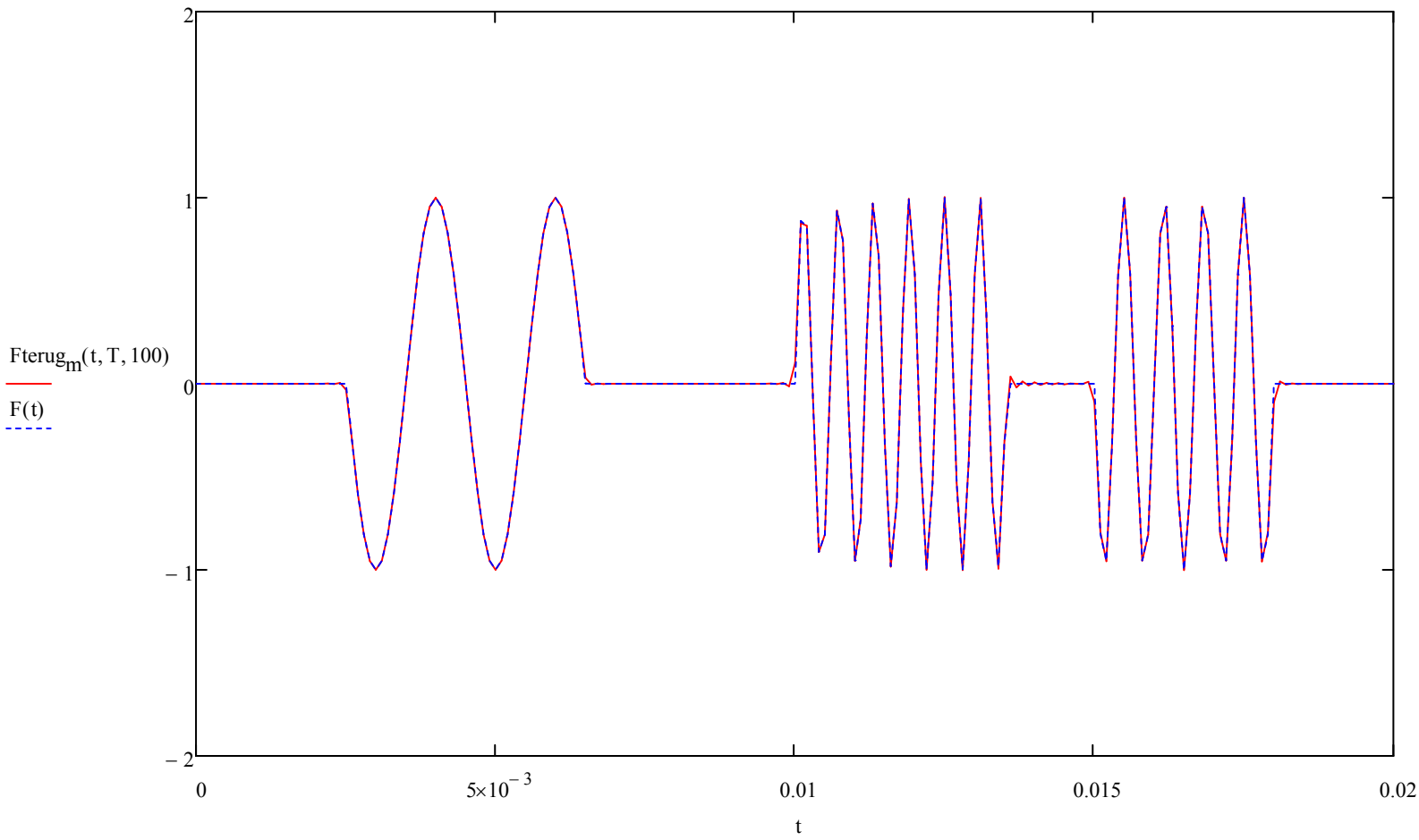
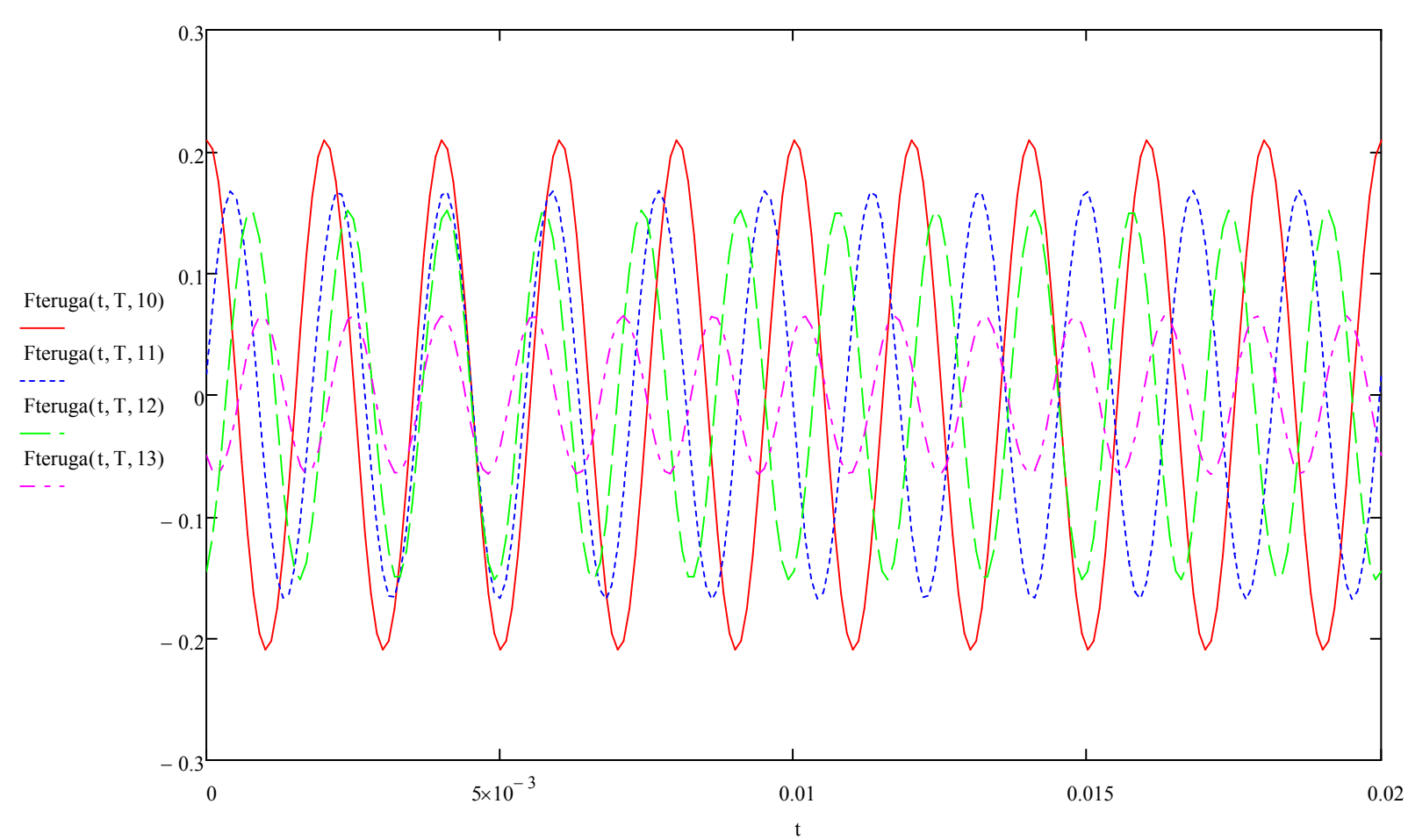
$F_{freal}(n) := \begin{cases} \left( \left| F_f(-n) \right| + \left| F_f(n) \right| \right) & \text{if } n > 0 \vee n < 0 \\ \frac{\left| F_f(-n) \right| + \left| F_f(n) \right|}{2} & \text{if } n = 0 \end{cases}$

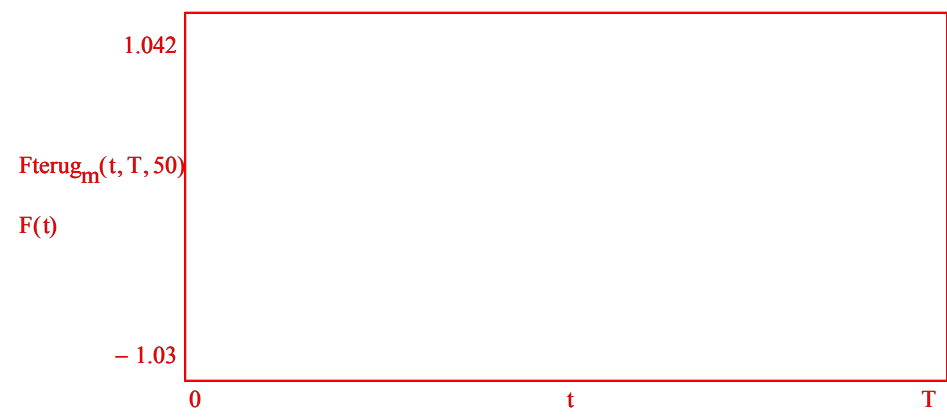


$$F_{terug_m}(t,T_{per},harm) := \sum_{m=-harm}^{harm} \left( F_f(m) \cdot e^{i \cdot 2 \cdot \pi \cdot \frac{1}{T_{per}} \cdot m \cdot t} \right)$$

t := 0,0.1·ml..20·ml

$$F_{teruga}(t,T_{per},m) := F_f(-m) \cdot e^{i \cdot 2 \cdot \pi \cdot \frac{1}{T_{per}} \cdot -m \cdot t} + F_f(m) \cdot e^{i \cdot 2 \cdot \pi \cdot \frac{1}{T_{per}} \cdot m \cdot t}$$





20 en 10 harmonische

