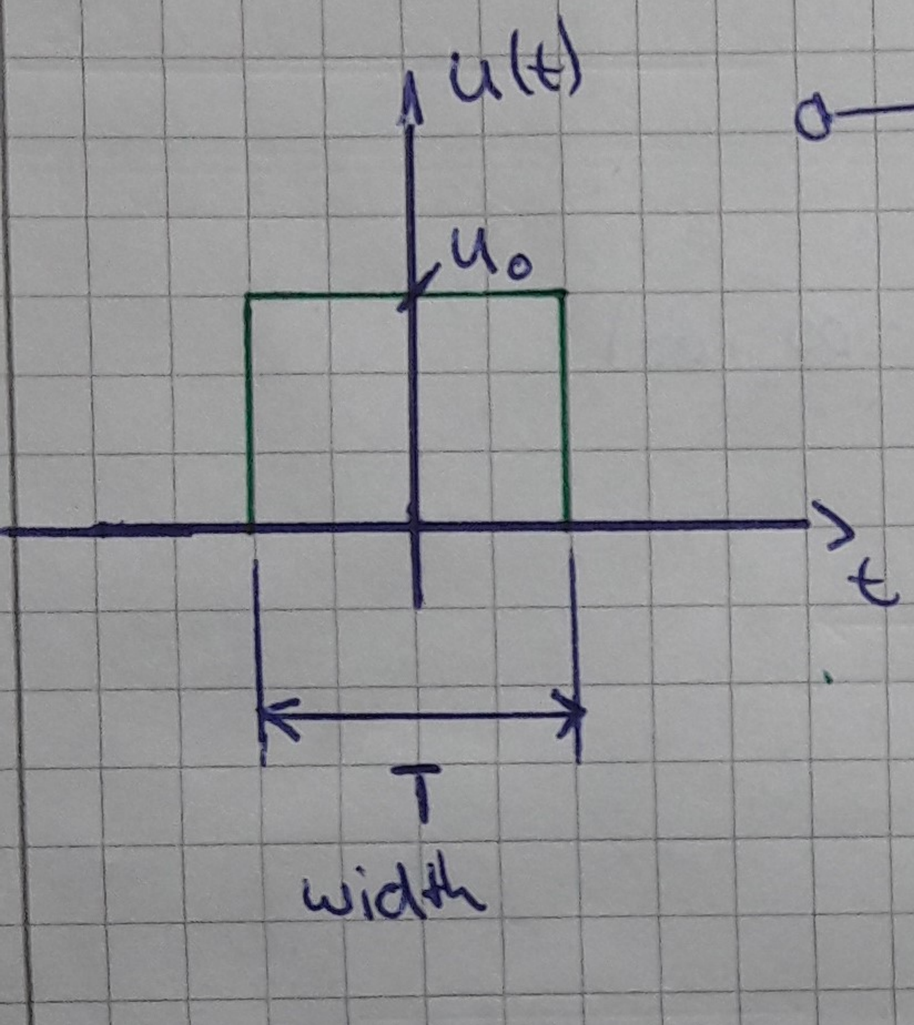
~~(Bandwidth) Bandwidth~~

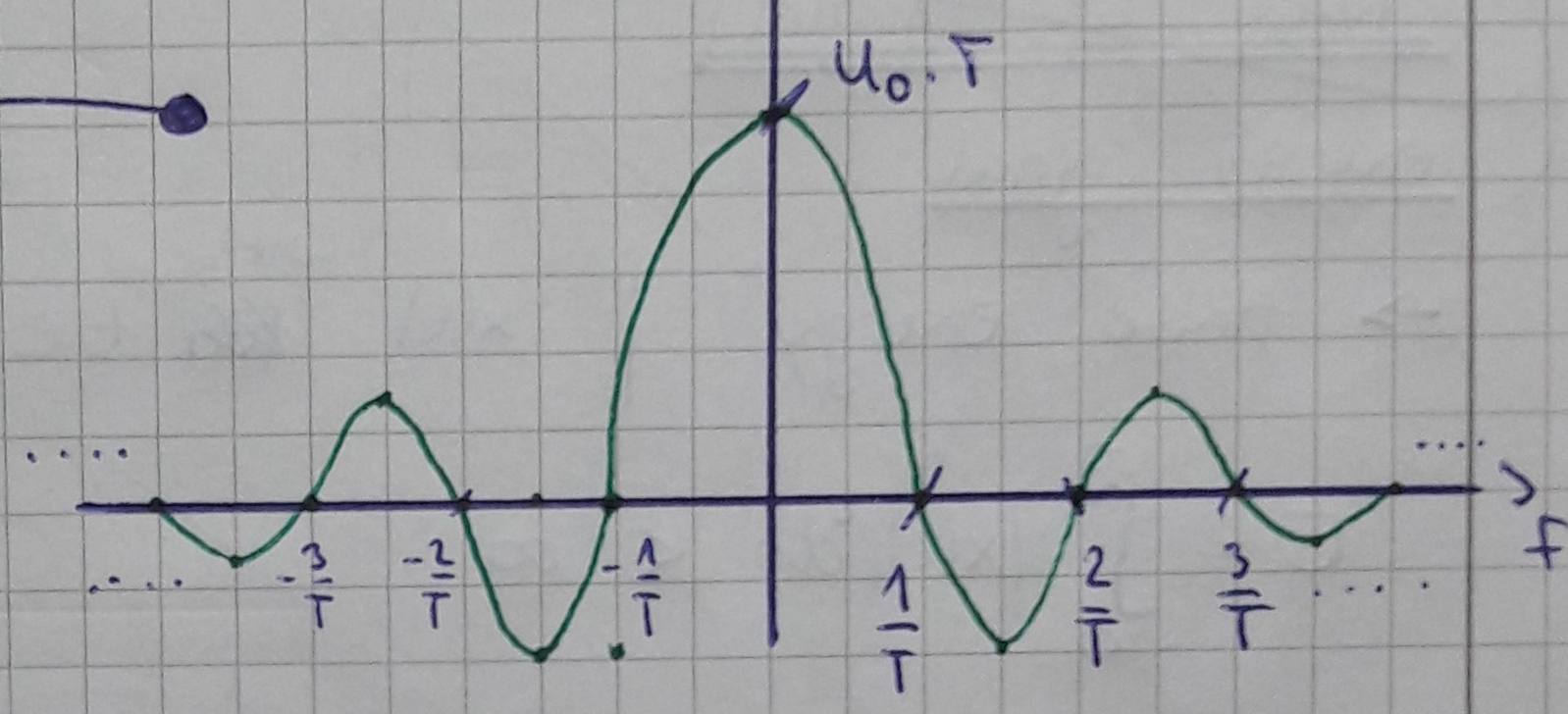
Rectangular function and its fourier transform

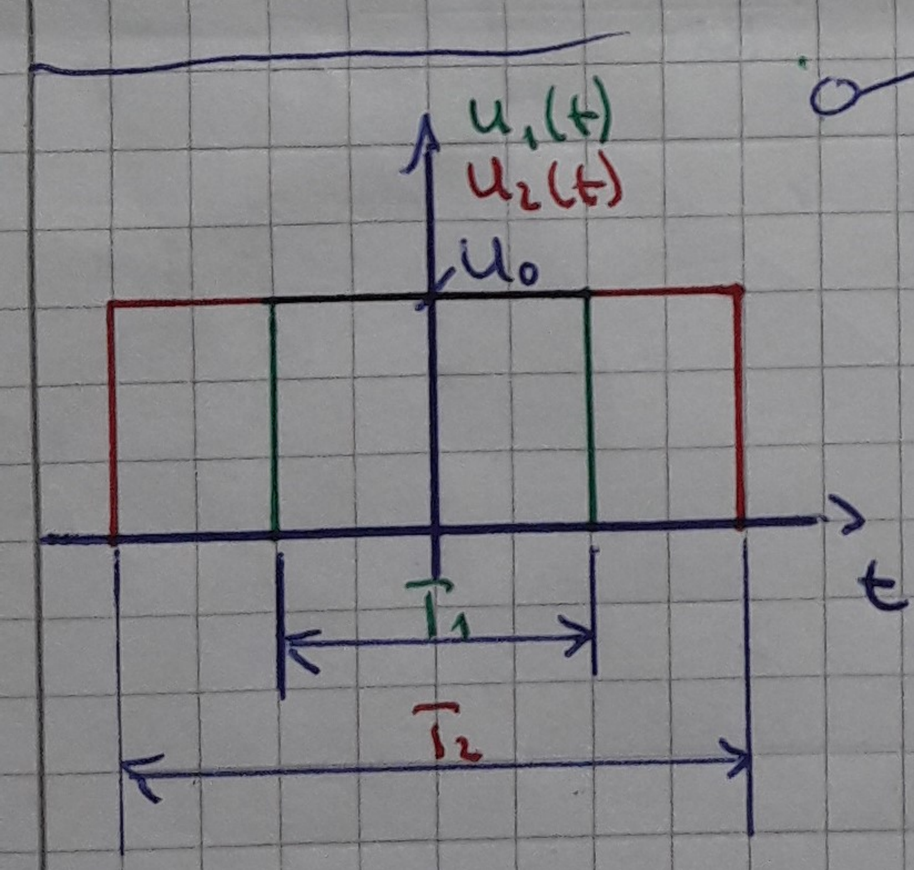
$u(t) = u_0 \cdot rect\left(\frac{t}{T}\right)$

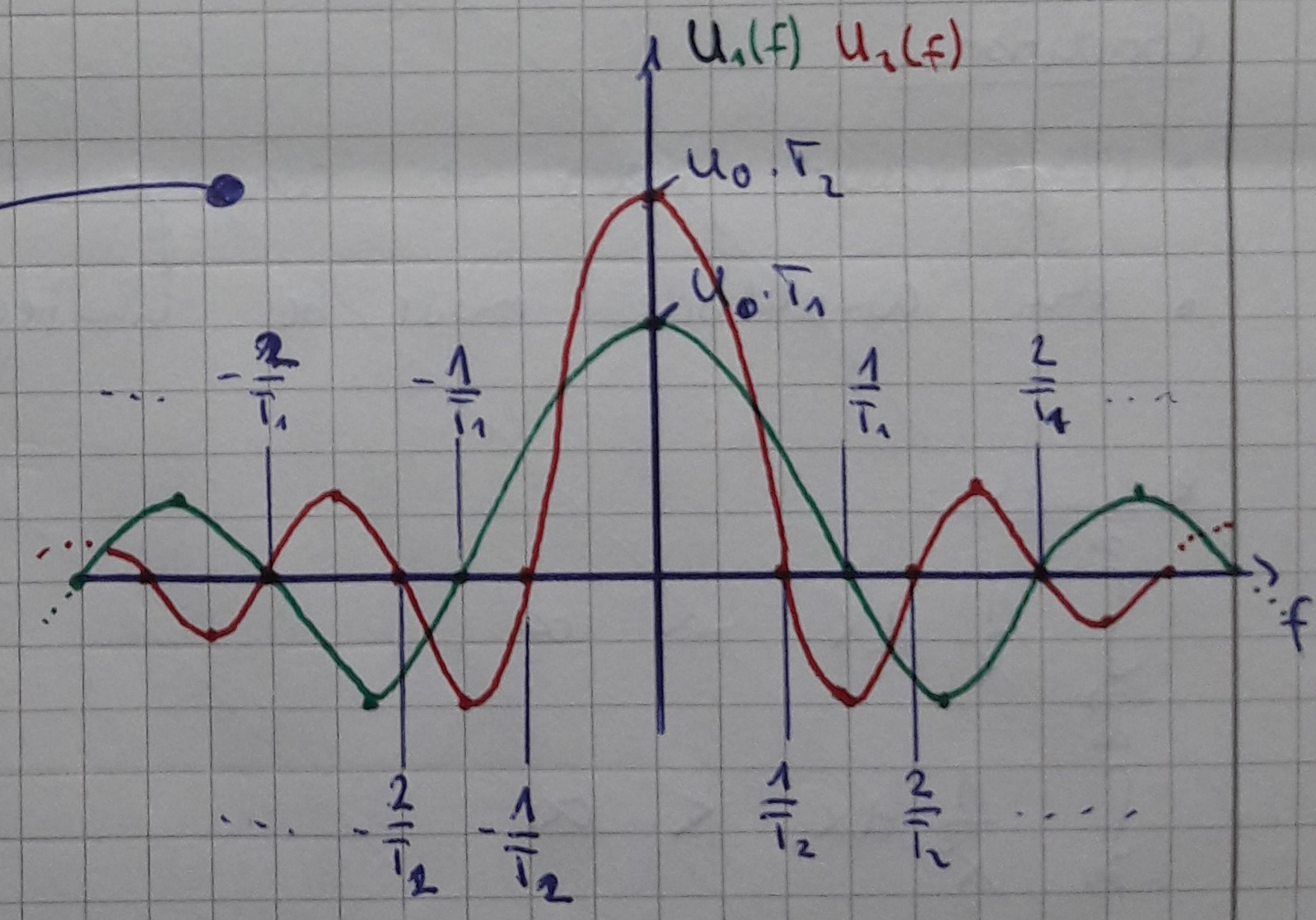
$u(f) = \frac{\sin(\pi f T)}{\pi f T}$ $\xrightarrow{\frac{\sin(f)}{f} = sinc(f)}$ $u_0 T\, sinc(\pi f T)$

sinc - function is normalized by π









$u_1(t) = u_0 \cdot rect\left(\frac{t}{T_1}\right)$ o——o $U_1(f) = u_0 \cdot T_1\, sinc(\pi f T_1)$

$u_2(t) = u_0 \cdot rect\left(\frac{t}{T_2}\right)$ o——o $U_2(f) = u_0 \cdot T_2 \cdot sinc(\pi f T_2)$

~~Rules of Signals~~

Types of functions and their fourier transform

u(t)/U(f)	RE	IM
even function		
odd function