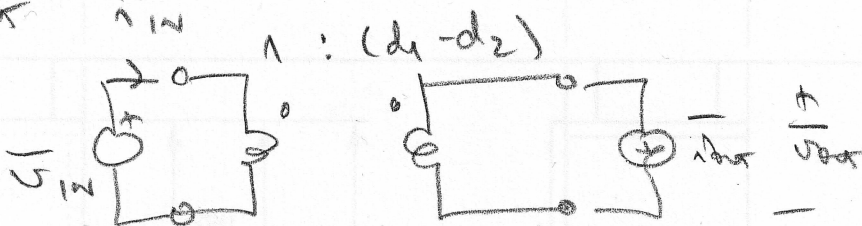


$$\bar{V}_{OUT} = \bar{V}_{IN} (d_1 - d_2)$$

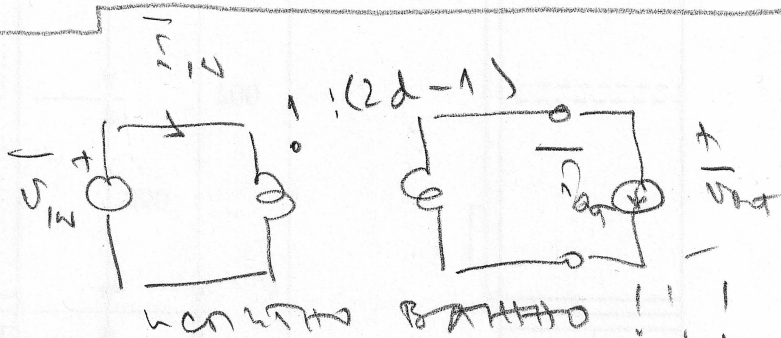
$$\bar{I}_{IN} = \bar{I}_{OUT} (d_1 - d_2)$$



ПОСЛЕДНЯЯ ЧАСТЬ

$$d_1 = d \quad d_2 = 1 - d$$

PUSH - PULL SOMEHOW



ПОСЛЕДНЯЯ ЧАСТЬ

ПОСЛЕДНЯЯ ЧАСТЬ :

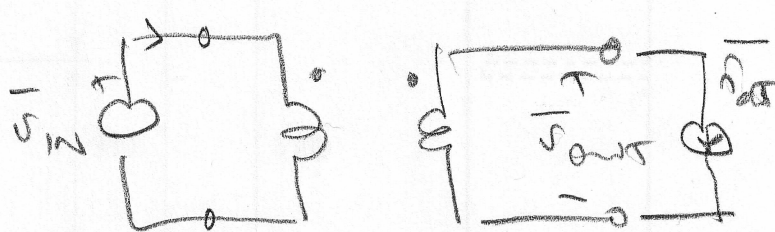
$$d = \frac{1}{2} (1 + m \text{ or } w_{ot})$$

$$2d - 1 = m \text{ or } w_{ot}$$

$$\bar{V}_{OUT} = m \bar{V}_{IN} \text{ or } w_{ot}$$

$$\bar{I}_{IN} = m \bar{I}_{OUT} \text{ or } w_{ot}$$

\bar{I}_{IN} 1 : m or wot

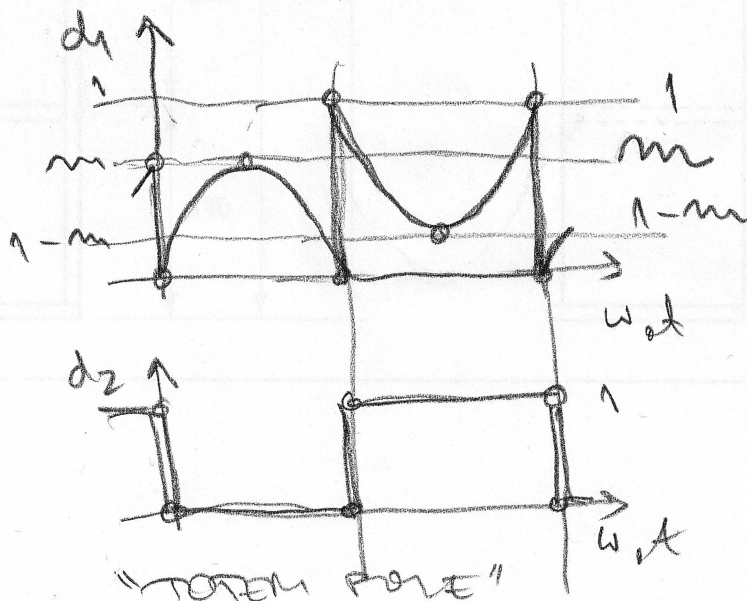
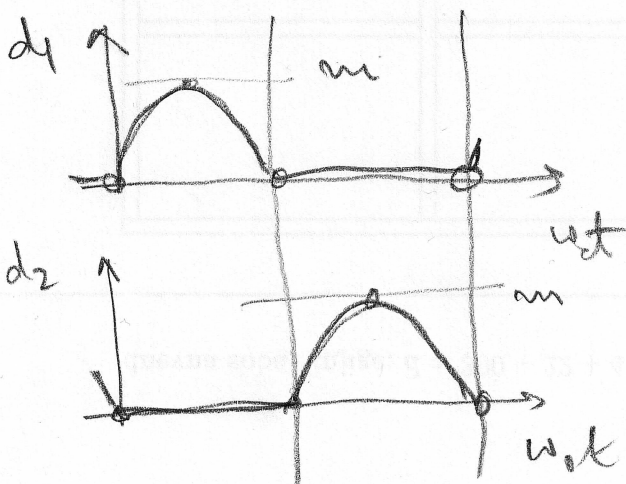


учитывая нуль

БАТТА !!!

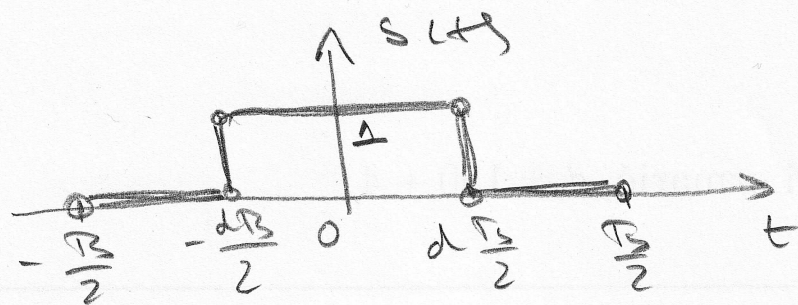
$$I_{IN} = \frac{I_{OUT} T_s}{T_D} \text{ DC component}$$

МОПА на основе за частоты HA не надо ? HE МОПА !!!



"TOTEM POLE"

СРЕДНАЯ PWM СИНУСОДА



$$\omega_s = 2\pi f_s$$

$$f_s = \frac{1}{T_s}$$

$$s(t) = d + \sum_{k=1}^{+\infty} \frac{2}{k\pi} \sin(k\pi d) \cos k\omega_s t$$

или

$$s(t) = \sum_{k=-\infty}^{+\infty} S_k e^{ik\omega_s t}$$

$$S_k = \begin{cases} d, & k=0 \\ \frac{\sin(k\pi d)}{k\pi}, & k \neq 0 \end{cases}$$

НОСИТЕЛЬНАЯ:

$$d = \frac{1}{2} (1 + m \cos \omega_0 t) \quad \text{НАЗНАЧЕ, } \omega_0 !!!$$

$$d_1 = d \rightarrow \frac{1}{2} (1 + m \cos \omega_0 t) \quad \text{КАМ}$$

$$d_2 = 1 - d \rightarrow \frac{1}{2} (1 - m \cos \omega_0 t) \quad \text{КАМ}$$

$$d_1 - d_2 = m \cos \omega_0 t$$

↑
ПОЗНАТО?

↑
ОБС ЧТО ХТЕНУ; ОСТАНО ЧТО
ДОБНУ, + ЧТО ХТЕНУ!

↑
КОМБИНАЦИЯ
АМПИТУДЫ
НОСИТЕЛЯ

$\sin(\omega t + d)$ KAD $d = \frac{1}{2}(1 + m \sin \omega t)$?

$\sin(\frac{\omega t}{2} + \frac{\omega t}{2} \text{ m } \sin \omega t)$

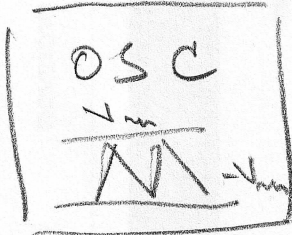
↳ ЗАДАЧА - АНГЕР, BUT THAT'S TOO MUCH!

АВА НАЧУНА МОДУЛЯЦИЈЕ:

① СРЕДНОТО ПРОСТАВЕ СЛОБОДНА

$m \sin \omega t$

$d_1 = \frac{1}{2}(1 + m \sin \omega t)$



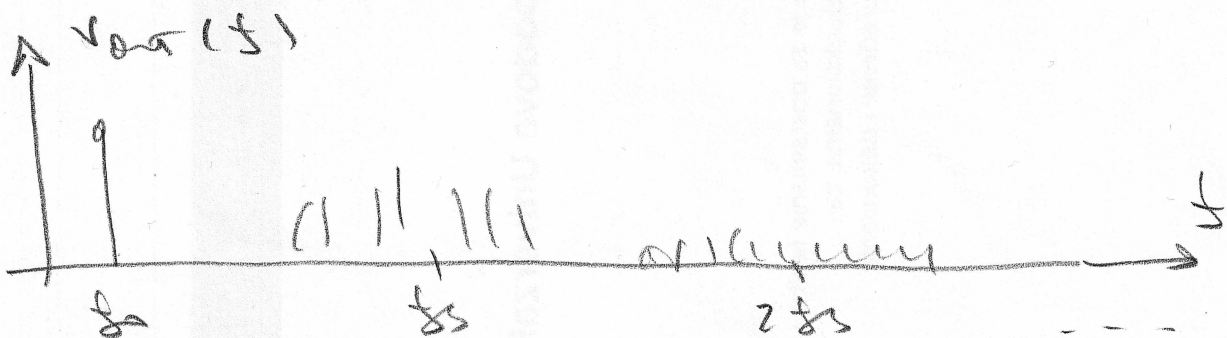
$d_2 = \frac{1}{2}(1 - m \sin \omega t)$

ЗЕДНАКО

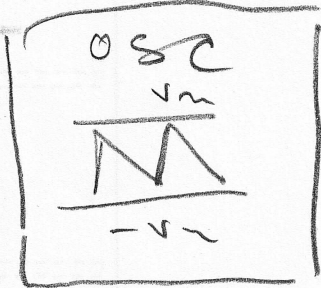
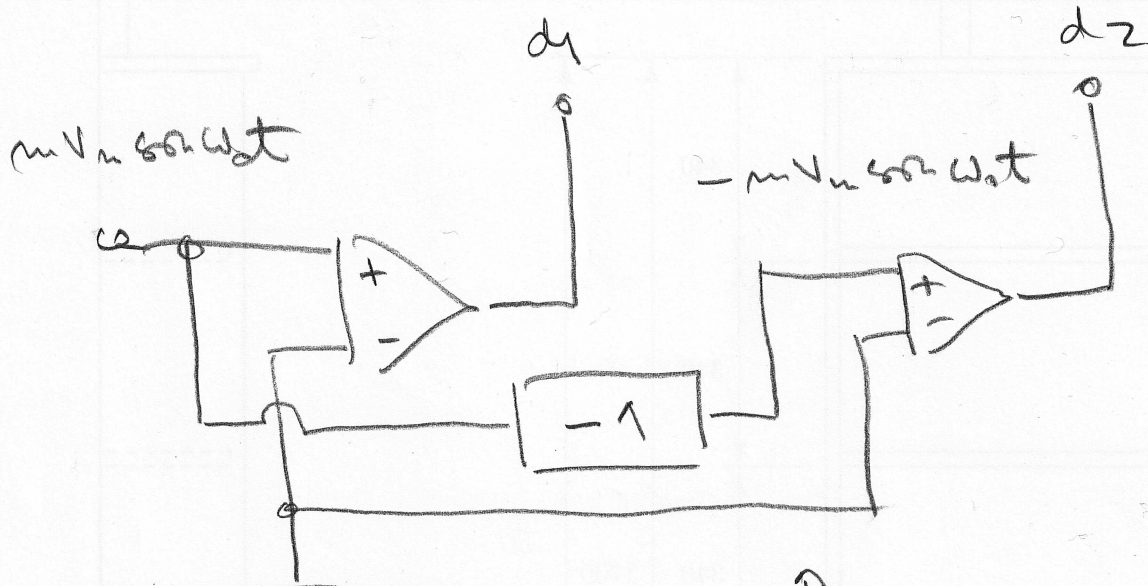
$d_2 = \overline{d_1}$ ← СИГНАЛ!

$d_2 = 1 - d_1$ ← ВУТРА

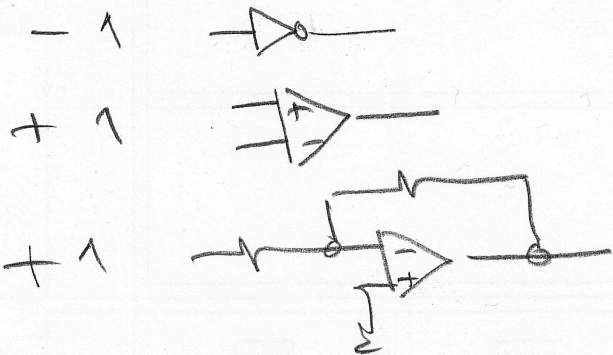
СИГНАЛ



② ~~HEZABUNCAO IMPRIBOITBE CTIBOZKA~~



↑
OBZ DE LAS CURVAS ?

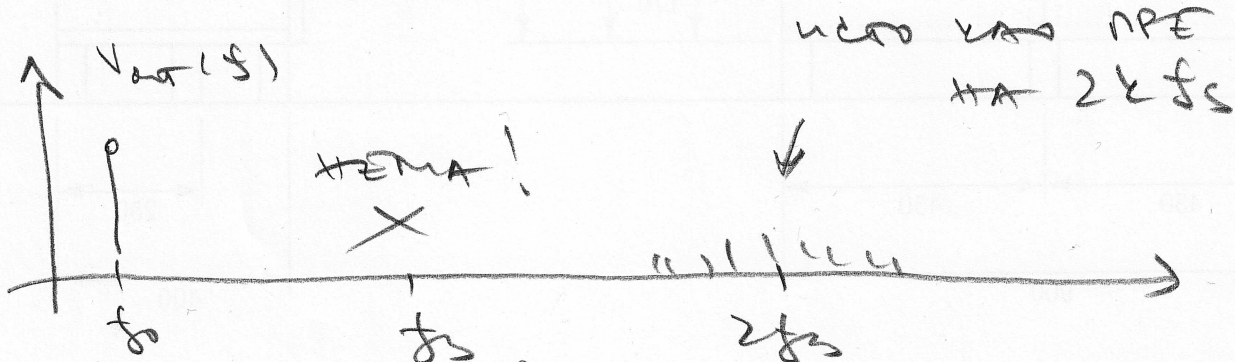


$$d_1 = \frac{1}{2}(1 + m \text{ sorwat})$$

$$d_2 = \frac{1}{2}(1 - m \text{ sorwat})$$

↑
NA TO DE UNTO ?

HEZE !!! CNEVTAP



HEMA HA (2k-1) fs!