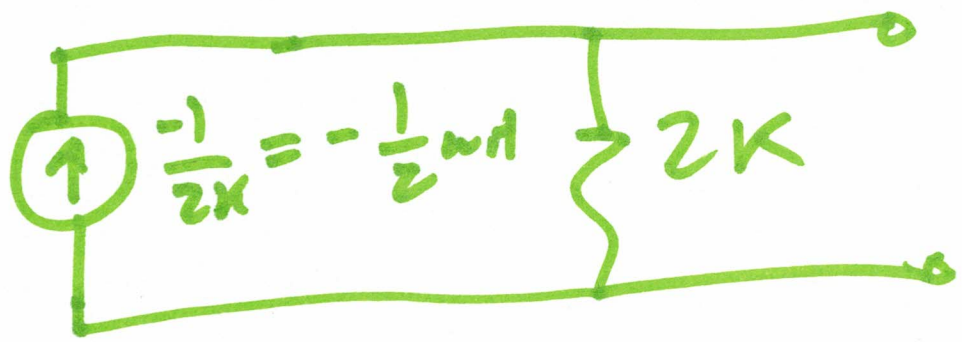
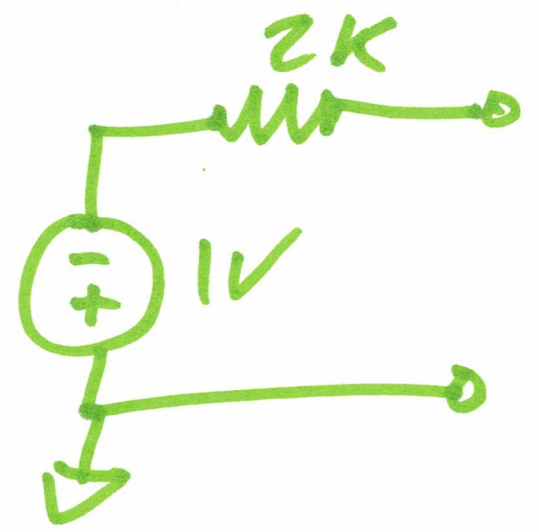
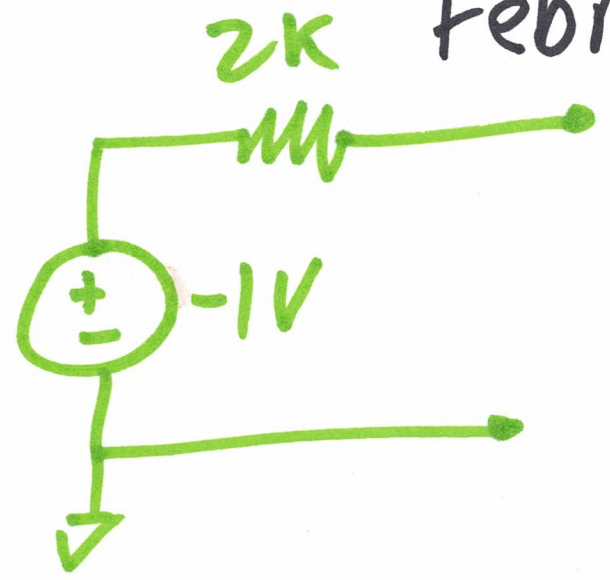
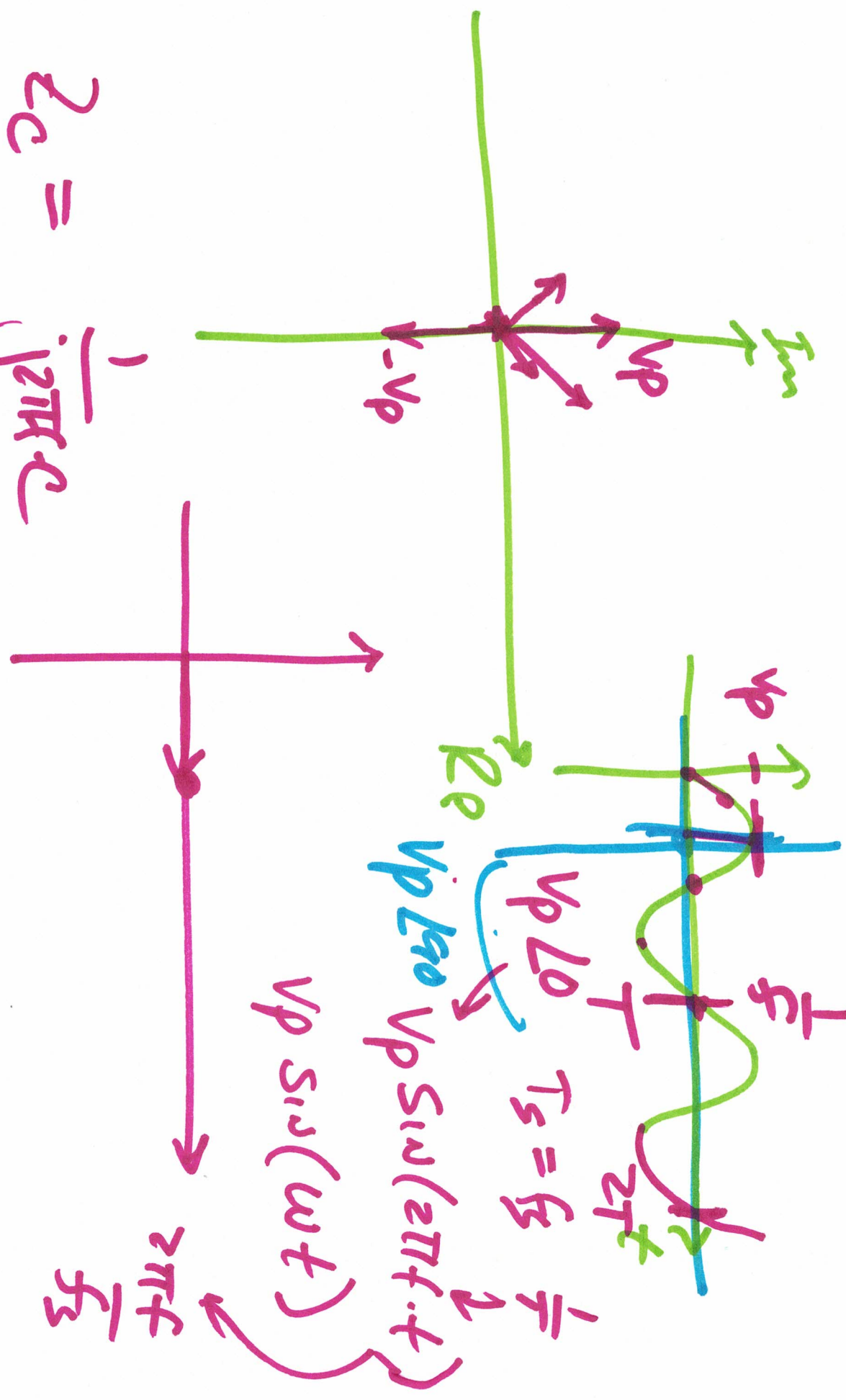


# EE 221 Circuits II

## Lecture 6

February 10, 2020



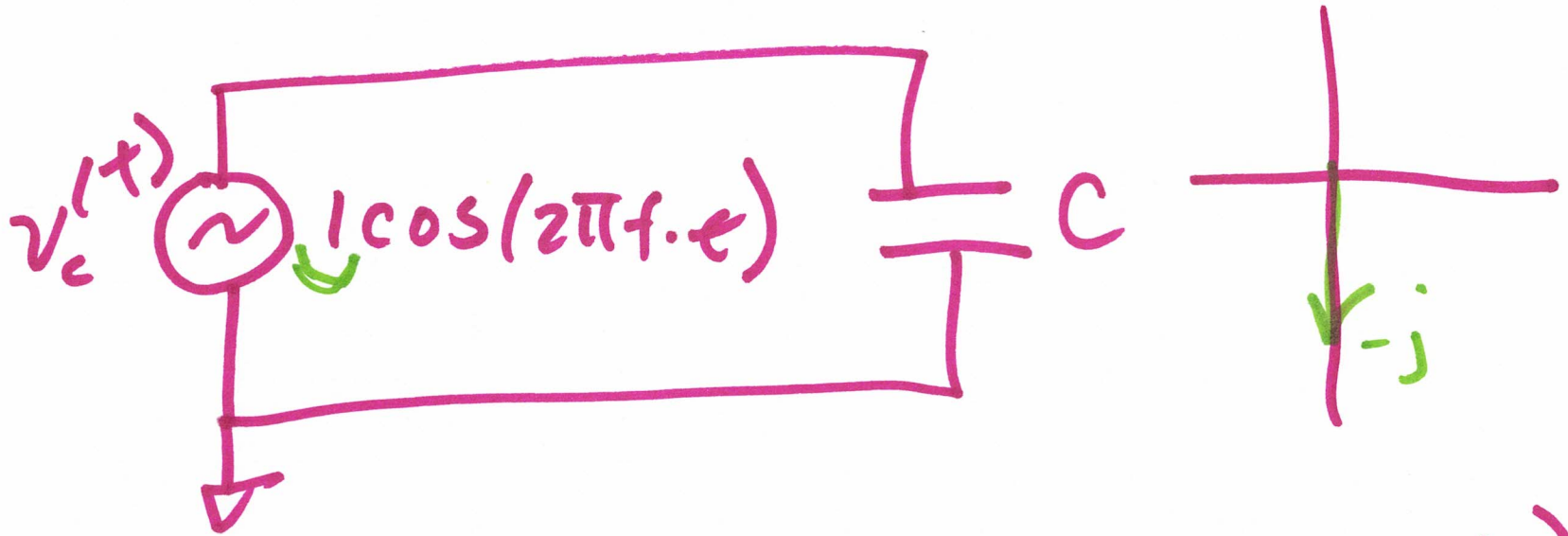


$$Z_C = \frac{1}{j\omega C}$$

$$Z_L = j\omega L \quad \omega = 2\pi f$$

2)

$$i = C \frac{dv_c}{dt} = C (-\sin(2\pi f \cdot t)) \cdot 2\pi f$$



$$i = C \cdot 2\pi f \cdot (\cos(2\pi f t - 90))$$

$$\frac{V_c \angle 0}{i_c \angle 0} = \frac{1}{j\omega C} = \frac{-j}{\omega C}$$

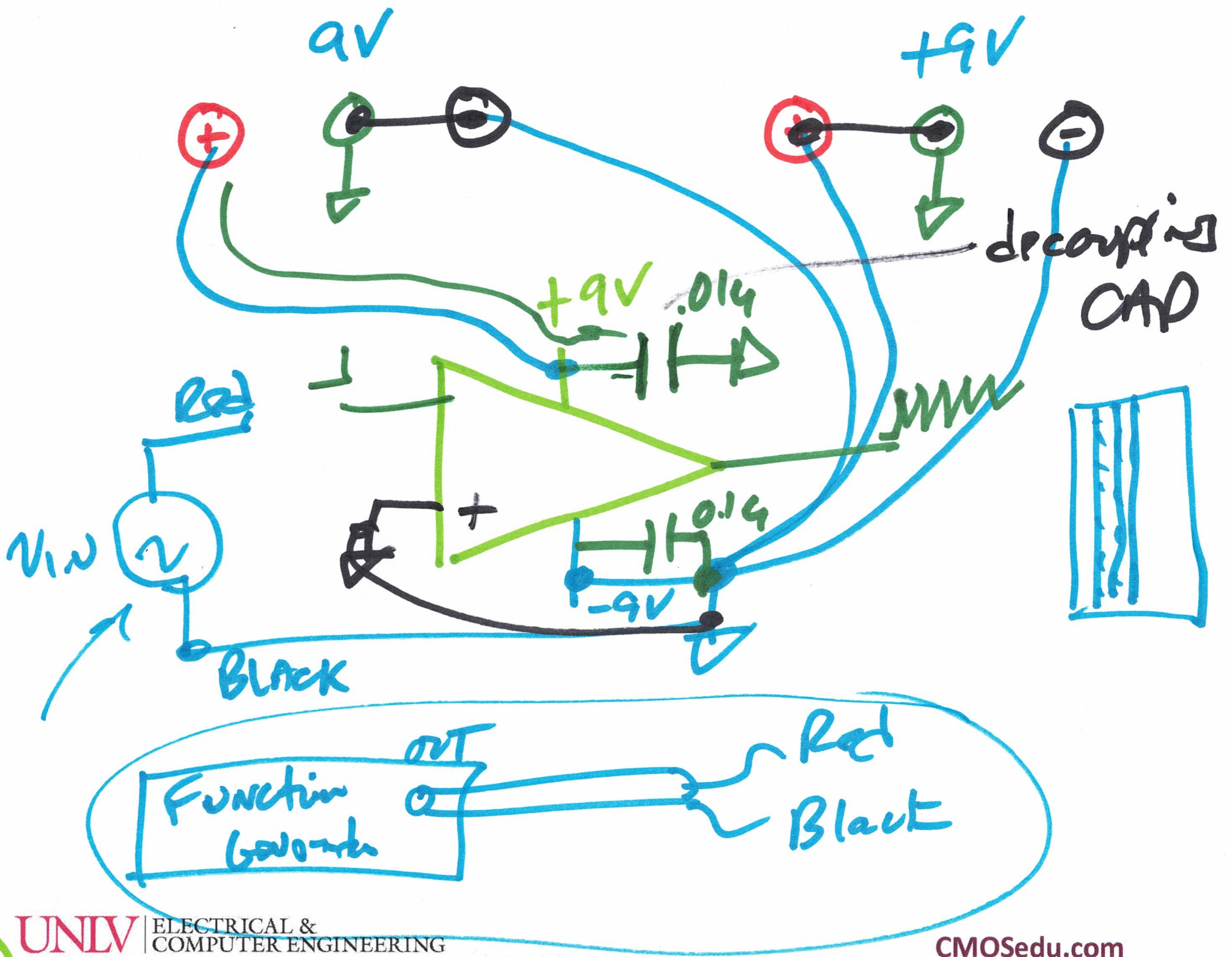
3)

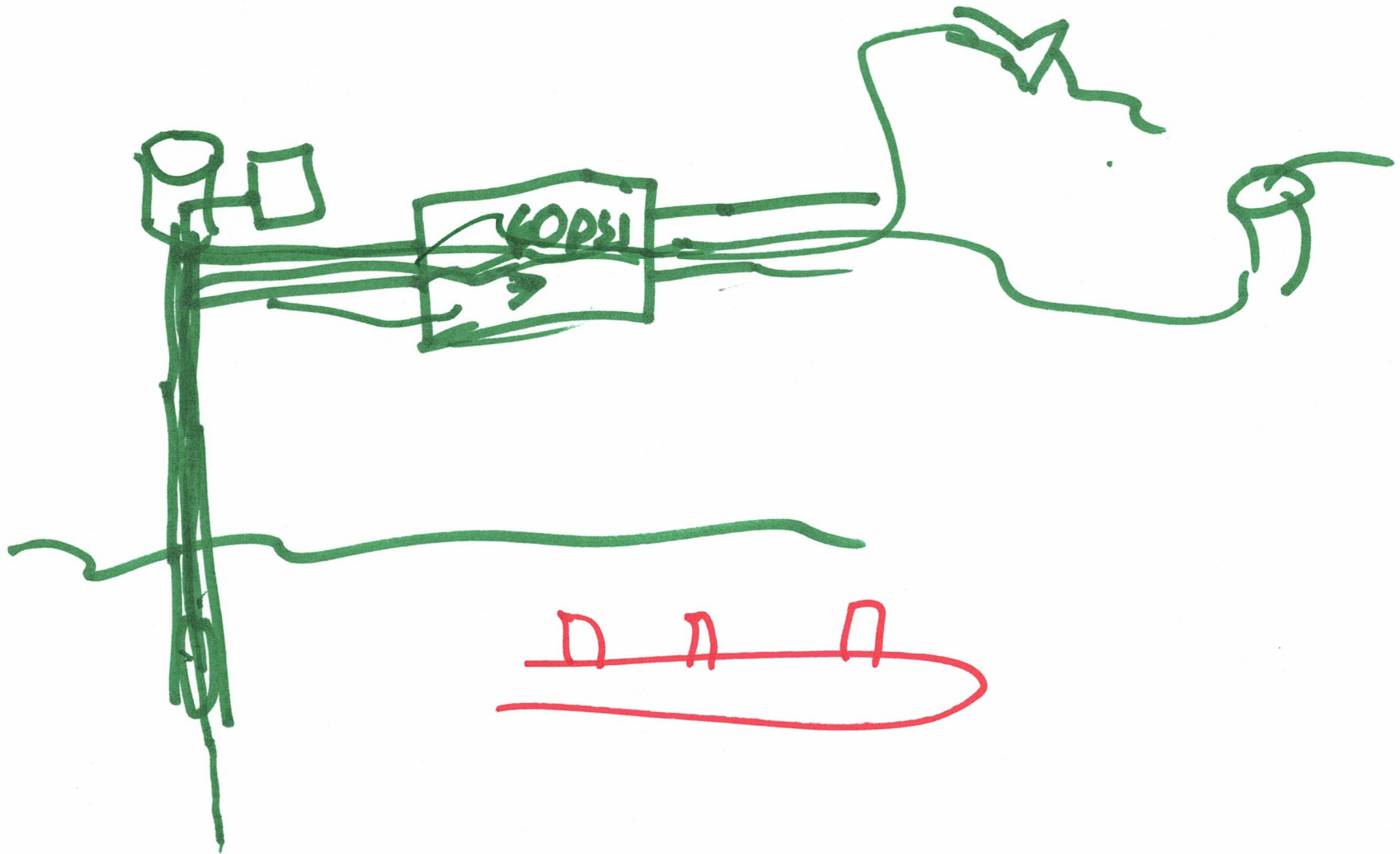
$$V_c \angle 0^\circ = i_c \angle 0^\circ \cdot \frac{1}{j\omega C}$$

$$i_c \angle 0^\circ = V_c \angle 0^\circ \cdot j\omega C$$

$$V_c \angle 0^\circ \cdot \omega C \angle 90^\circ$$

$$= \omega C V_c \angle 90^\circ$$





6)

