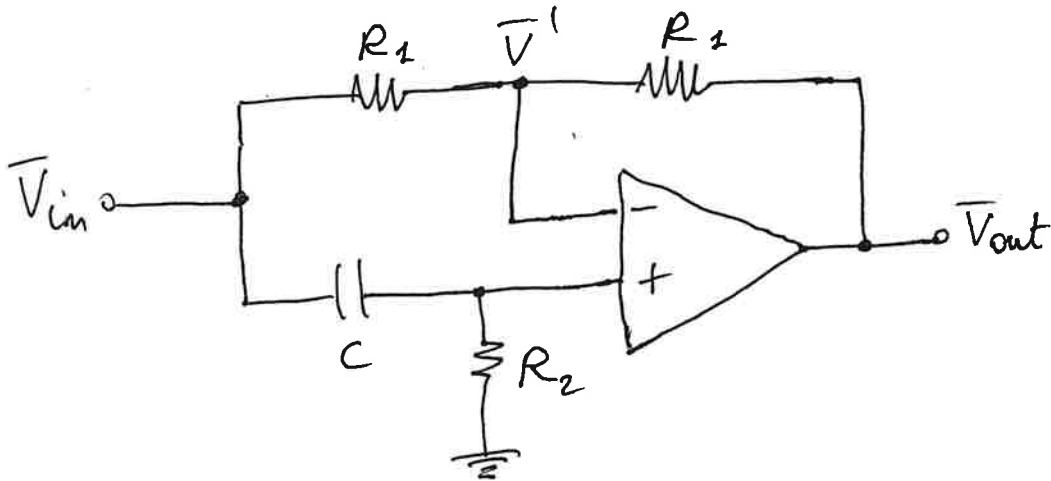


# FILTRO PASSA-TUTTO



$$\bar{V}' = \frac{R_2}{R_2 + \frac{1}{j\omega C}} \bar{V}_{in} = \frac{j\omega C R_2}{1 + j\omega C R_2} \bar{V}_{in}$$

$$\frac{\bar{V}_{in} - \bar{V}'}{R_1} = \frac{\bar{V}' - \bar{V}_{out}}{R_1}$$

$$\bar{V}' = \frac{\bar{V}_{in} + \bar{V}_{out}}{2}$$

$$\frac{\bar{V}_{in} + \bar{V}_{out}}{2} = \frac{j\omega C R_2}{1 + j\omega C R_2} \bar{V}_{in}$$

$$\frac{\bar{V}_{out}}{\bar{V}_{in}} = - \frac{1 - j\omega C R_2}{1 + j\omega C R_2}$$

$$\left| \frac{\bar{V}_{out}}{\bar{V}_{in}} \right| = 1 \quad \forall \omega \quad \left\{ \begin{array}{l} \omega = 0 : \frac{\bar{V}_{out}}{\bar{V}_{in}} = -1 \\ \omega \rightarrow \infty : \frac{\bar{V}_{out}}{\bar{V}_{in}} \rightarrow 1 \end{array} \right.$$

$$\angle \frac{\bar{V}_{out}}{\bar{V}_{in}} = \pi - 2 \arctan(\omega C R_2) + 2k\pi$$