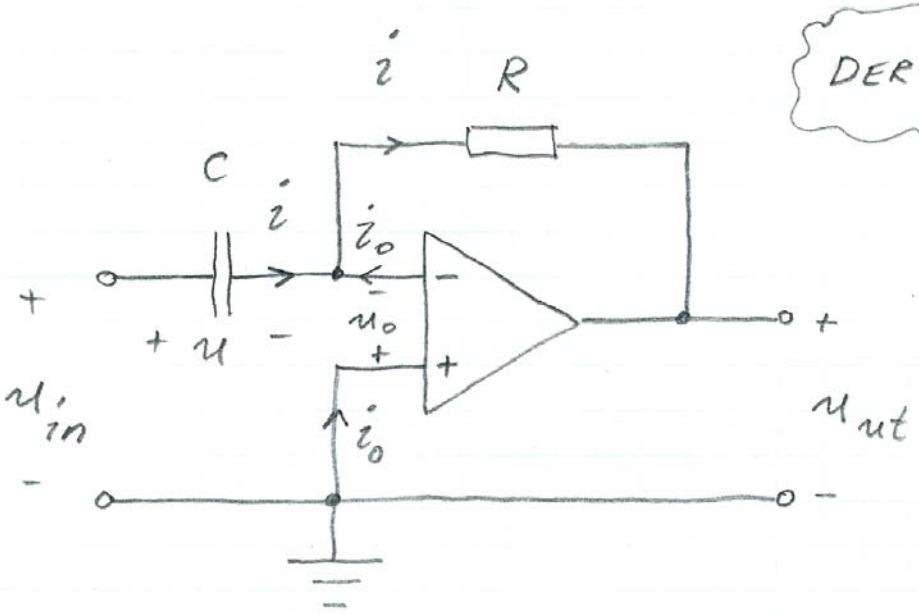
DERIVATOR



$$u_{in} - u + u_0 = 0 \quad \ldots (1) \qquad u_0 = 0$$

$$u_{ut} + R \cdot i + u_0 = 0 \quad \ldots (2)$$

$$i = C \cdot \frac{du}{dt}$$

$$(1) \rightarrow u = u_{in} \Rightarrow i = C \cdot \frac{du_{in}}{dt}$$

INS , (2) $\Rightarrow$

$$u_{ut} + CR \cdot \frac{du_{in}}{dt} = 0 \Rightarrow \boxed{u_{ut} = -CR \cdot \frac{du_{in}}{dt}}$$