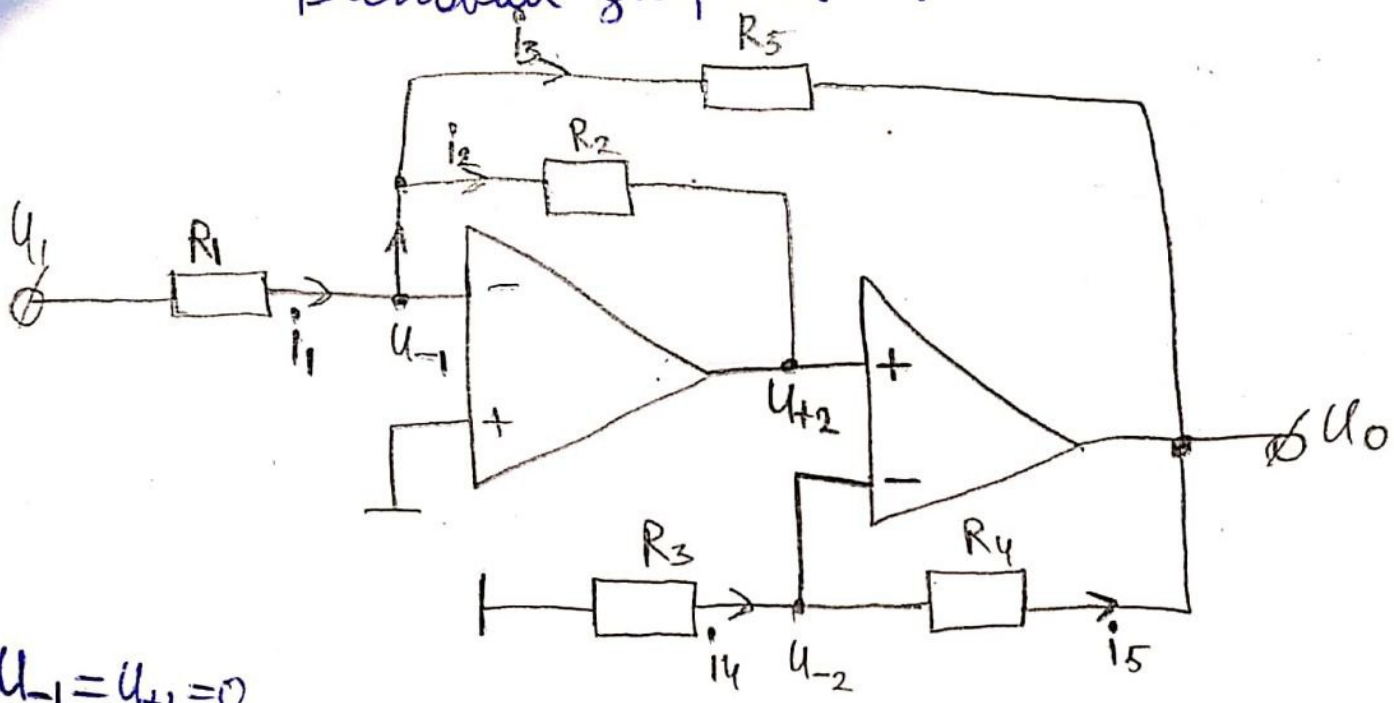
Типовая задача 5.



$U_{-1} = U_{+1} = 0$

$\frac{U_1 - 0}{R_1} = i_1$, $i_1 = i_2 + i_3$, $i_2 = \frac{U_{-1} - U_{+2}}{R_2} = \frac{-U_{+2}}{R_2}$; $U_{+2} = U_{-2}$

$i_4 = \frac{0 - U_{-2}}{R_3} = i_5 = \frac{U_{-2} - U_0}{R_4}$ $\quad i_3 = \frac{U_{-1} - U_0}{R_5} = -\frac{U_0}{R_5}$

$\frac{U_1}{R_1} = -\left(\frac{U_{+2}}{R_2} + \frac{U_0}{R_5}\right)$; $\frac{U_0 - U_{+2}}{R_4} = \frac{U_{+2}}{R_3} \Rightarrow U_{+2} = \frac{U_0 R_3}{R_3 + R_4}$

$\frac{U_1}{R_1} = -U_0\left(\frac{R_3}{R_2(R_3+R_4)} + \frac{1}{R_5}\right) = -U_0\left(\frac{R_3 R_5 + R_2(R_3+R_4)}{R_2 R_5 (R_3+R_4)}\right)$

$\Downarrow$

$U_0 = -\frac{U_1}{R_1}\left(\frac{R_2 R_5 (R_3+R_4)}{R_3 R_5 + R_2(R_3+R_4)}\right)$

$\Uparrow$

$K = \frac{U_0}{U_1} = -\frac{R_2 R_5 (R_3+R_4)}{R_1(R_3 R_5 + R_2(R_3+R_4))}$