2021-04-07#2

$f = 100\ Hz$, $U = 200\ V$, $\sim 4{,}16\ ms$

$A = 0{,}06^2\ m^2$, $N = 100$ $\sim 0{,}83 ms$

$$\hat{B} = \int_{30°}^{150°} \frac{U}{2NA}\,dt = \begin{cases} w = \frac{d\alpha}{dt} \Rightarrow dt = \frac{w}{d\alpha} \\ t = \frac{w}{\alpha} = \frac{2\pi f}{\alpha} \Rightarrow \end{cases}$$

$150° \rightarrow \frac{2\pi \cdot 100}{150°} = 4{,}18$ ①

$150° \rightarrow \frac{2\pi \cdot 100}{5\pi/6} = 240$ ②

$30° \rightarrow \frac{2\pi \cdot 100}{(\pi/6)} = 1200$ ②

$\frac{2\pi \cdot 100}{30°} = 20{,}94$ ①

① $\int_{20{,}94}^{4{,}18} \frac{U}{2NA}\,dt = \frac{200}{2 \cdot 100 \cdot 0{,}06^2}(4{,}18 - 20{,}94) = -4656{,}6\ T$

② $\int_{1200}^{240} \frac{U}{2NA}\,dt = \frac{200}{2 \cdot 100 \cdot 0{,}06^2}\left[240 - 1200\right] = -2674\ T$