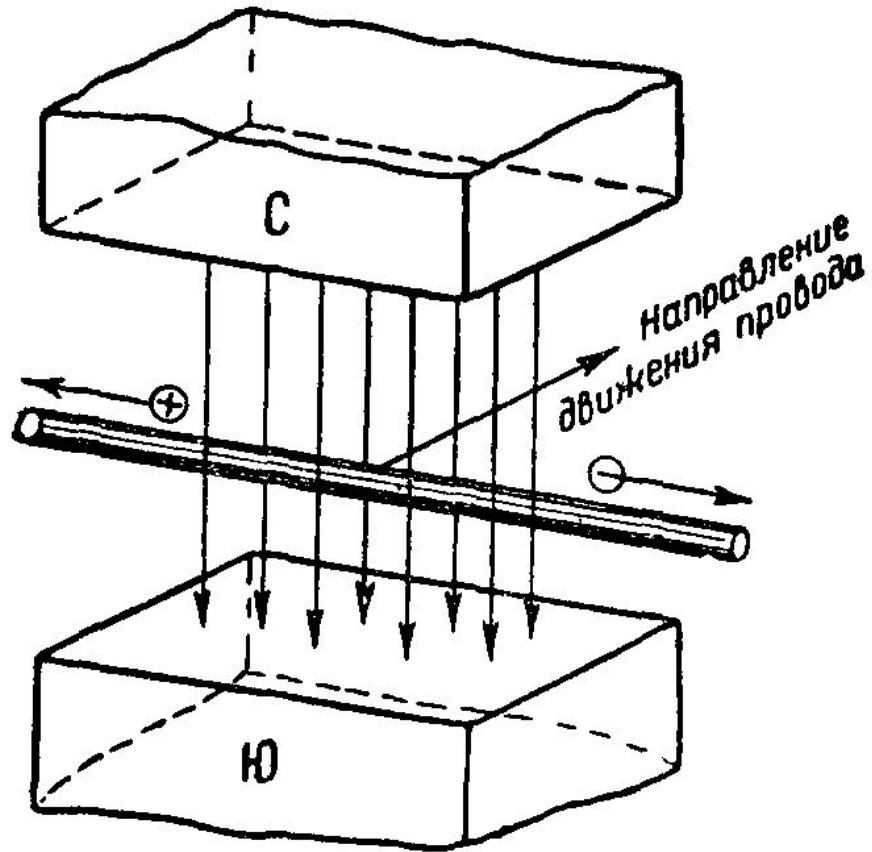
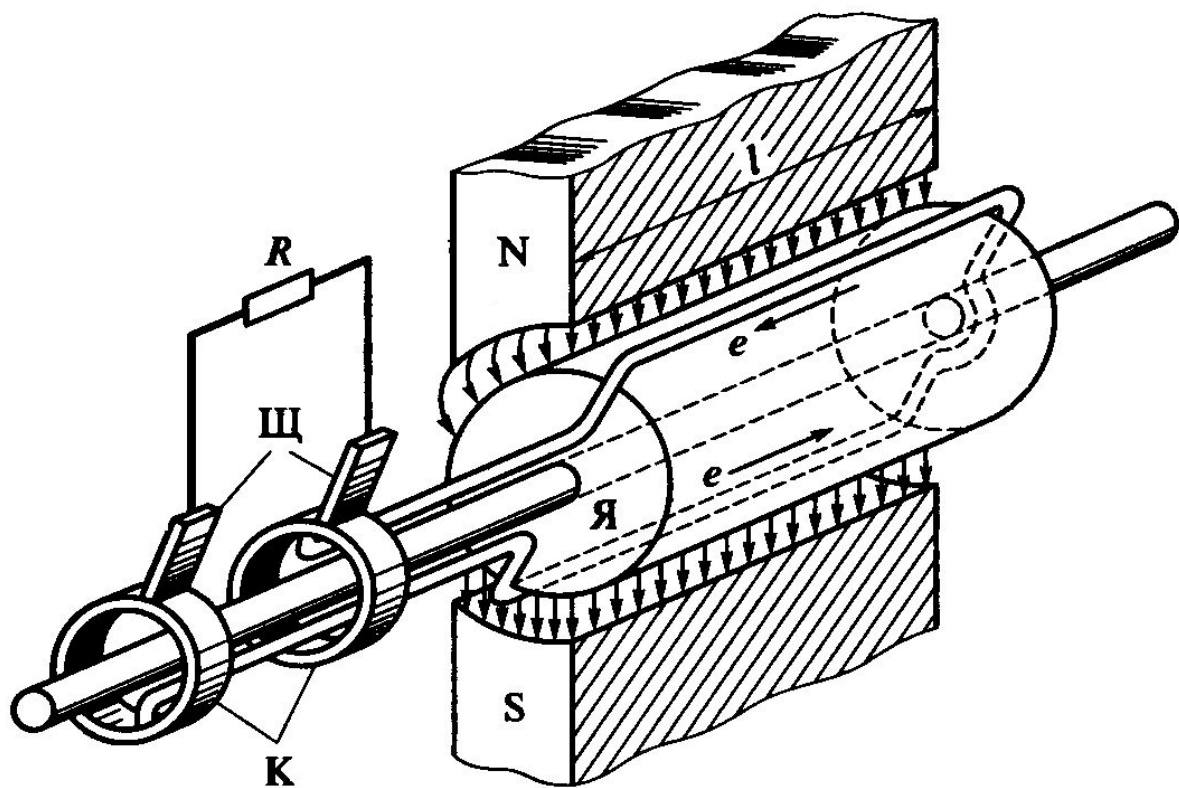


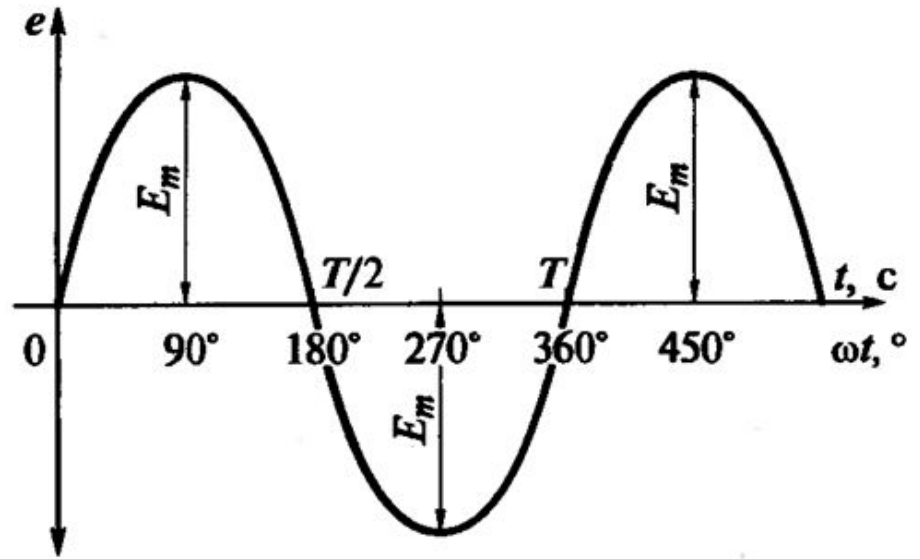
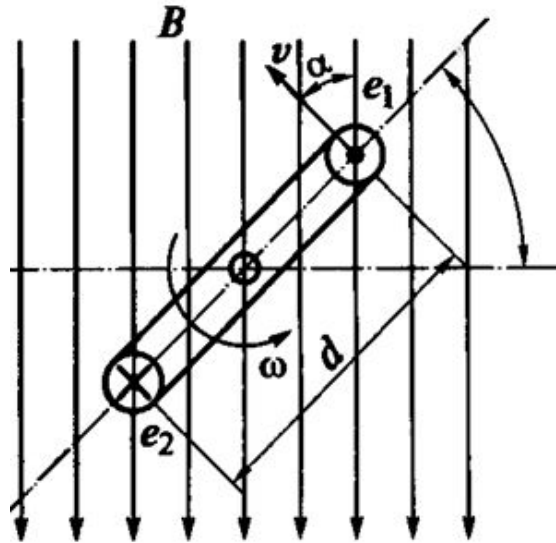
# Характеристики переменного тока.



$$E = Bvl \sin \alpha . (B)$$



$$E = Bvl \sin \alpha. (B)$$



$$E_m = Bvl.$$

Амплитудное значение

$$e = E_m \sin \alpha$$

Мгновенное значение

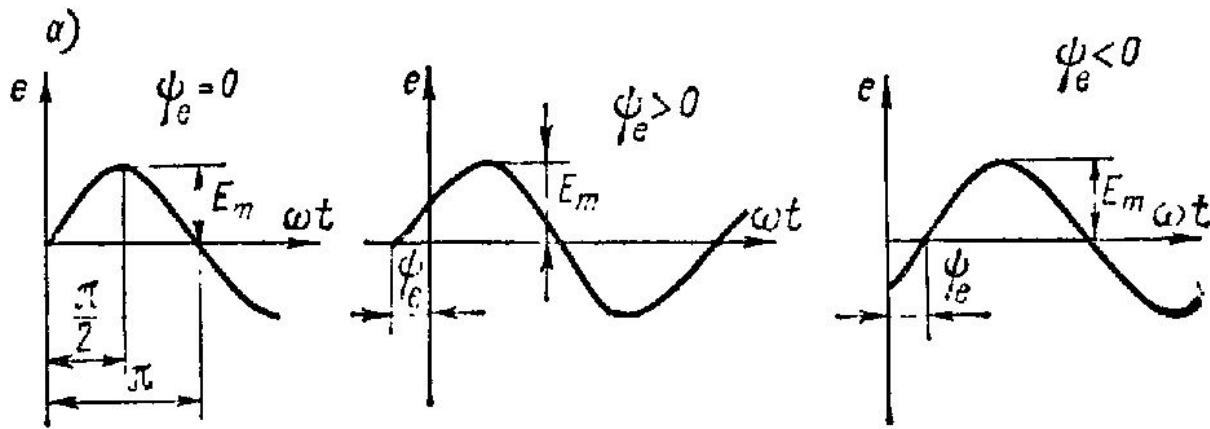
$$E = E_m / \sqrt{2} = 0,707 E_m; \quad \text{Действующее значение}$$

$$f = \frac{1}{T} \quad (\text{Гц})$$

Частота тока

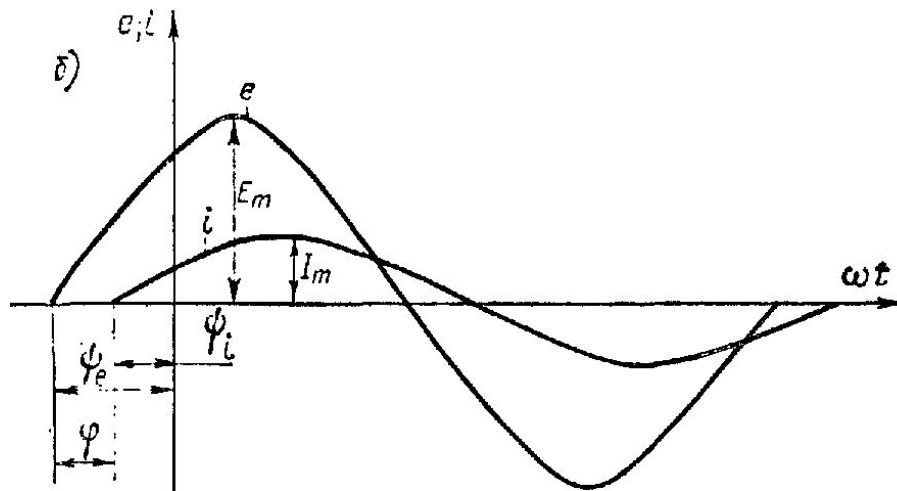
$$\omega = \frac{2\pi}{T} = 2\pi f.$$

Угловая частота (скорость)



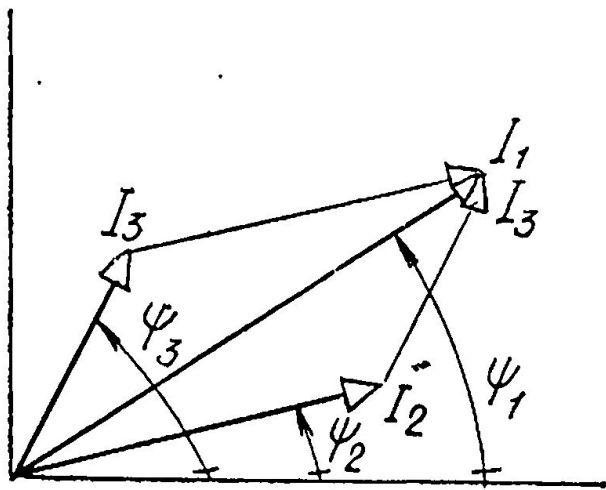
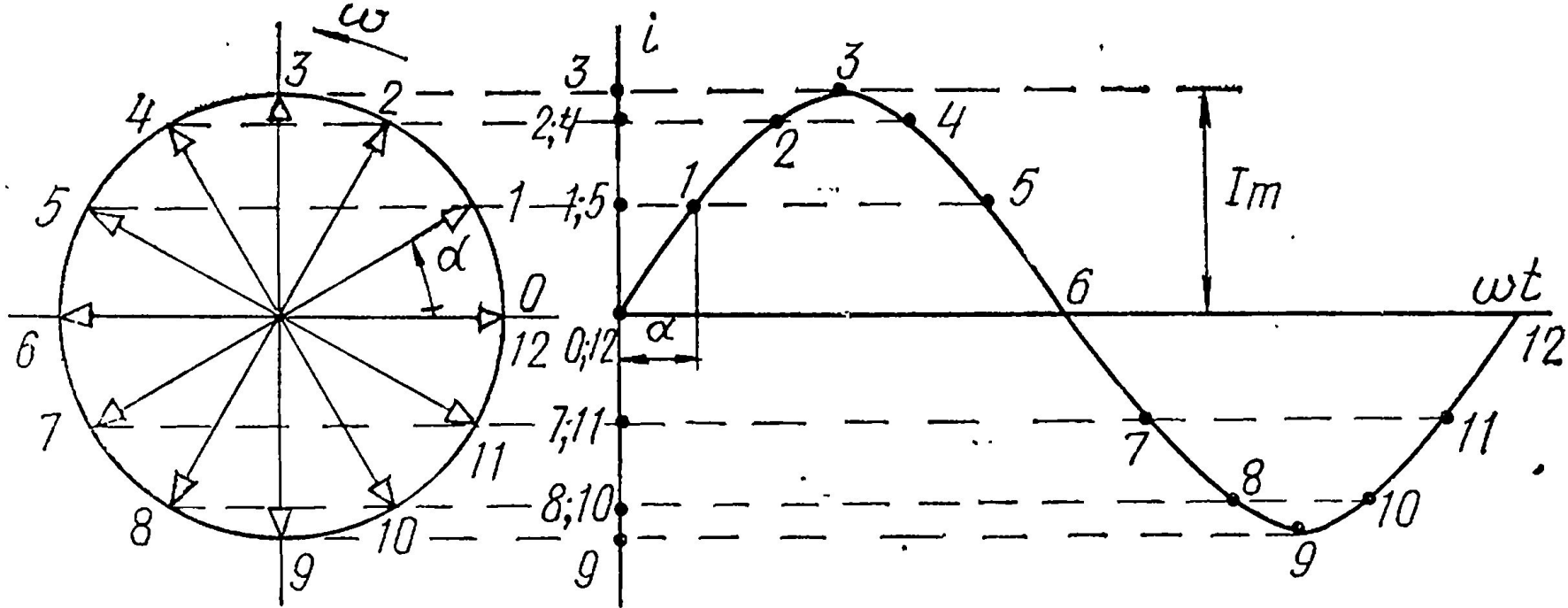
**ψ**

Начальная фаза колебаний



**φ** Сдвиг фаз

**$e = E_m \sin(\omega t \pm \psi)$**  Уравнение мгновенного значения



$$\bar{I}_1 = \bar{I}_2 + \bar{I}_3.$$

$$u = 310 \sin(314t - 45)$$

$$U_m = 310 \text{ В.}$$

$$U = 0,71U_m = 220 \text{ В.}$$

$$\omega = 314 \frac{\text{рад}}{\text{с}}$$

$$f = \frac{\omega}{2\pi} = \frac{314}{2 \cdot 3,14} = 50 \text{ Гц.}$$

$$T = \frac{1}{f} = \frac{1}{50} = 0,02 \text{ с.}$$

$$\Psi = -45$$

$$i_1 = 3 \sin 314t.$$

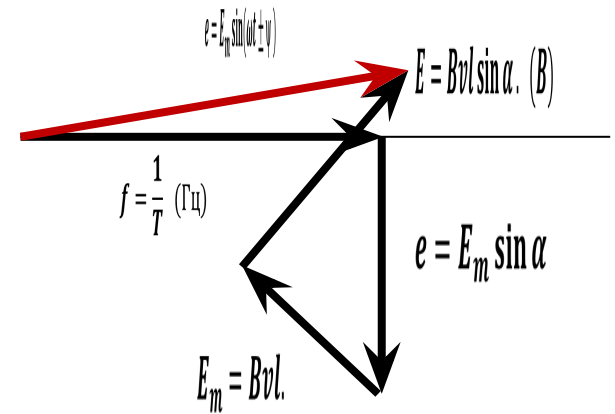
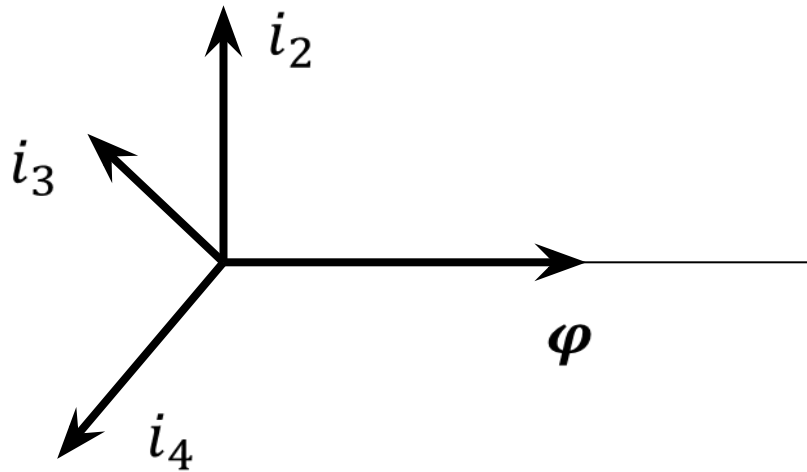
$$E = Bvl \sin \alpha. \quad (B)$$

$$i_3 = 1,5 \sin(314t + 135)$$

$$i_4 = 2,5 \sin(314t - 135)$$

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$$i = i_1 - i_2 + i_3 - i_4$$



$$i = 3,7 \sin(314t + 20)$$

$$i = i_1 + i_2 + i_3 + i_4 = 1,5 \sin(314t + 90)$$

**1 – ВАРИАНТ.**

$$u = 179 \sin(628t - 90)$$

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$U_m$	$U$	$\omega$	$f$	$T$	$\Psi$
-------	-----	----------	-----	-----	--------

$$i_1 = 3 \sin(\omega t + 90)$$

$$i_2 = 1 \sin(\omega t - 45)$$

$$i_3 = 2 \sin(\omega t - 90)$$

---

$$i = i_1 + i_2 - i_3$$

**2–ВАРИАНТ.**

$$u = 535 \sin(1256t + 90)$$

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$U_m$	$U$	$\omega$	$f$	$T$	$\Psi$
-------	-----	----------	-----	-----	--------

$$i_1 = 3 \sin(\omega t - 90)$$

$$i_2 = 2 \sin(\omega t + 45)$$

$$i_3 = 1 \sin(\omega t - 90)$$

---

$$i = i_1 + i_2 - i_3$$