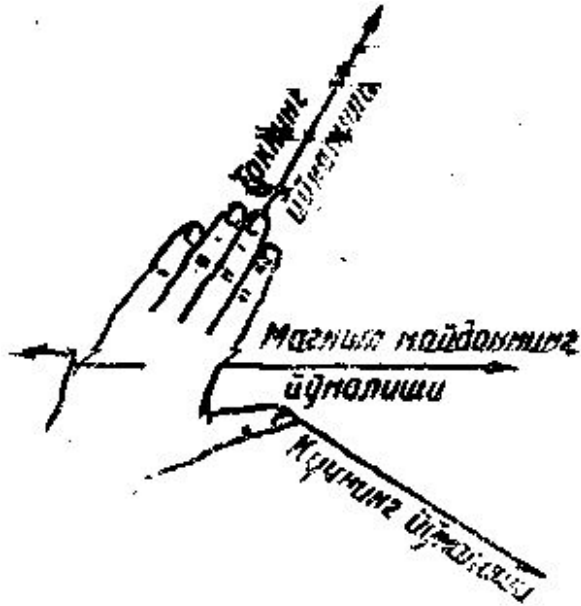


23-mavzu: Magnit maydonning tokli o‘tkazgich va elektr zaryadlariga ta’siri.

REJA:

- 1. Amper kuchi.**
- 2. Parallel toklarning o‘zaro ta’siri. Magnit maydonni xarakatdagi zaryadga ta’siri. Lorens kuchi. Bir jinsli magnit maydonida zaryadli zarralar harakati.**
- 3. Xoll effekti.**
- 4. Tezlatgichlar**

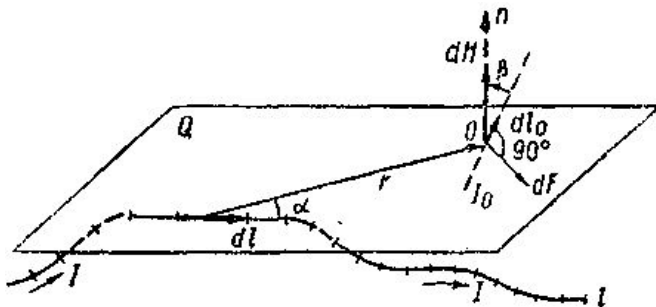
1. Amper kuchi.



219- расм.

$$dH = \frac{Idl \sin \alpha}{4\pi r^2}$$

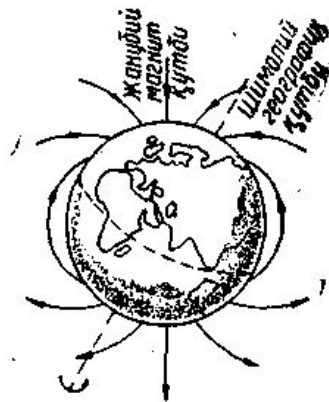
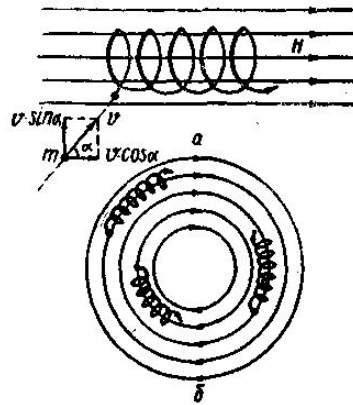
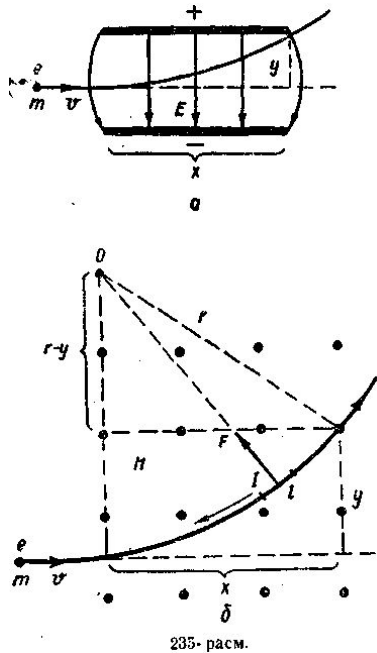
$$dF_{12} = \frac{\mu_0 I I_0 \cdot dl \cdot dl_0 \sin \alpha \sin \beta}{4\pi r^2}$$



218- расм.

$$dF_{12} = \mu_0 I_0 dl_0 dH \sin \beta$$

2. Parallel toklarning o'zaro ta'siri. Magnit maydonni xarakatdagi zaryadga ta'siri. Lorens kuchi. Bir jinsli magnit maydonida zaryadli zarralar harakati.



$$F = eE = ma$$

$$y = \frac{ax^2}{2v^2} \quad y = \frac{e}{m} \frac{E}{2v^2} x^2 \quad y = \frac{at^2}{2}$$

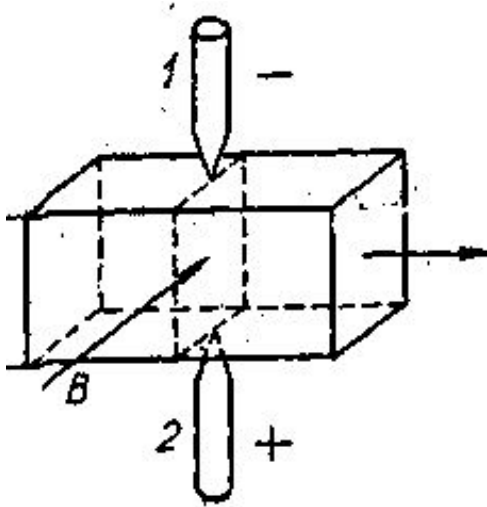
$$F = \mu_0 I H l \quad t = \frac{v}{x} \quad ev\mu_0 H = \frac{mv^2}{r}$$

$$F = I B l = \mu_0 \mu I H l \quad T = \frac{s}{v} = \frac{2\pi R}{v}$$

$$F = ev\mu_0 H \quad r = \frac{mv}{e\mu_0 H} \quad I = \frac{e}{t}$$

$$F = \mu_0 H \frac{e}{l} \quad T = \frac{2\pi m}{e H}$$

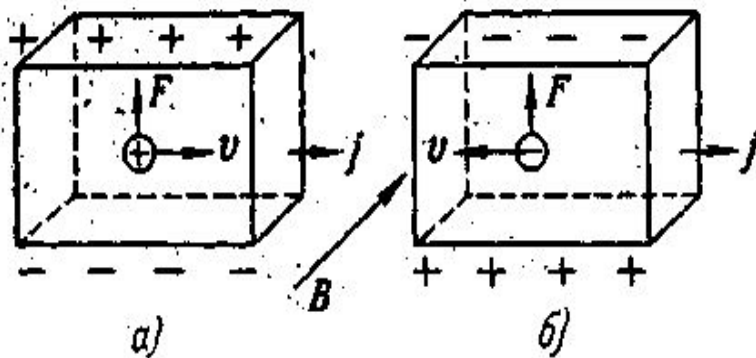
3. Холл эффекти.



$$j = env \quad R = \frac{1}{ne}$$

257-расм. Холл эффекти.

$$U = Ed = vBd$$

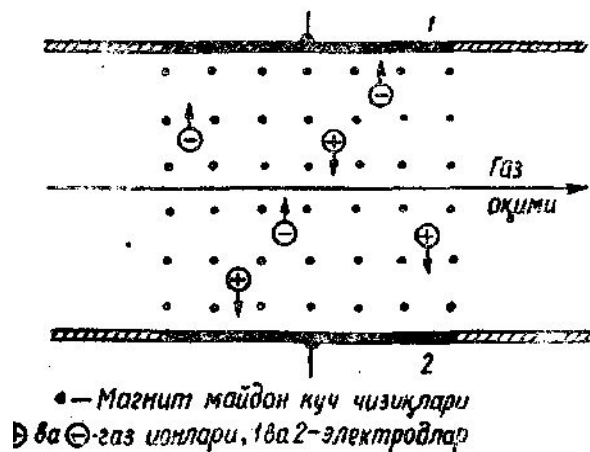


$$U = RdjB$$

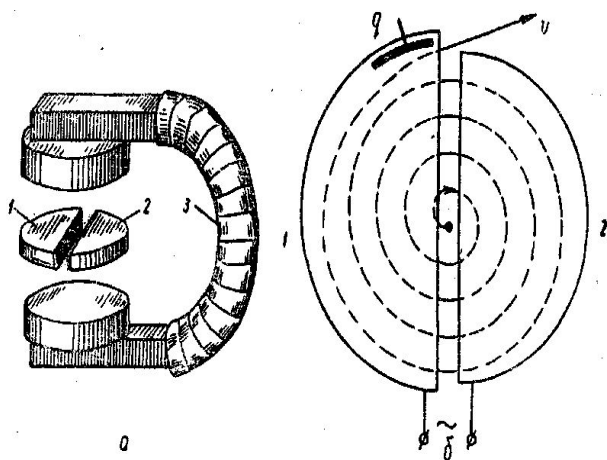
$$U = \frac{1}{ne} djB$$

258-расм. Холл эффектида кўндаланг потенциаллар фарқининг шораси ўтказгичдаги заряд ташувчилар ишорасига боғлиқ бўлади.

4. Tezlatgichlar



245- расм.



244- расм.

TSiklotronning printsiptial sxemasi 244.a-rasmda tasvirlangan. Kuchli 3 elektromagnitniig qutb uchlari orasida tezlatuvchi vakuum kamera joylashtirilgan (u rasmda ko`rsatilmagan), kamerada yarim doira shaklidagi ikkita 1 va 2 metall qutichalar joylashtiriladi, bu qutichalar *duantlar** deb ataladi. Duantlarga T davrli o`zgaruvchan kuchlanish beriladi, bu kuchlanish duantlar orasidagi oraliqda xuddi shunday davrli o`zgaruvchan elektr maydoni vujudga keltiradi. Elektromagnitning magnet maydoni duantlarning elektr maydoniga perpendikular bo`ladi.

$$T = \frac{2\pi m}{e\mu_0 H}$$