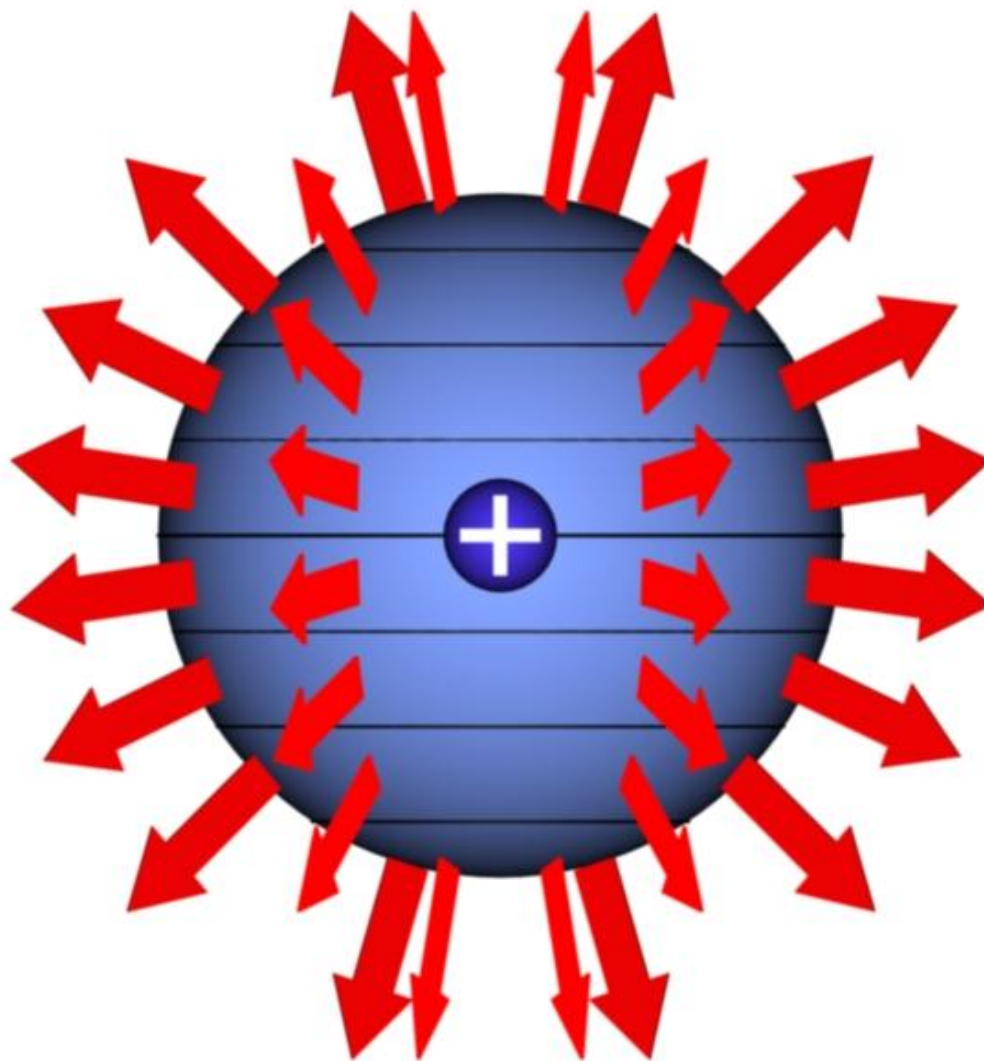
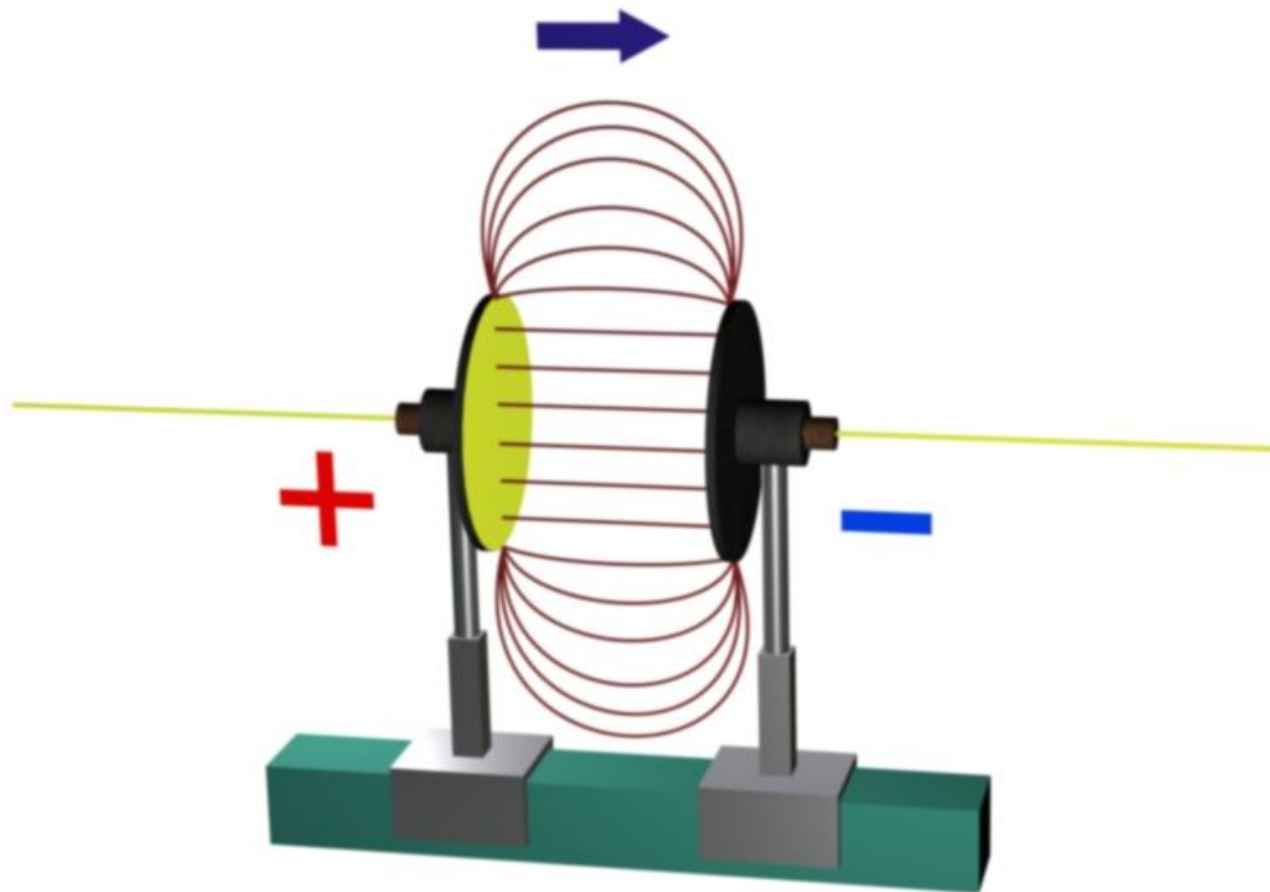


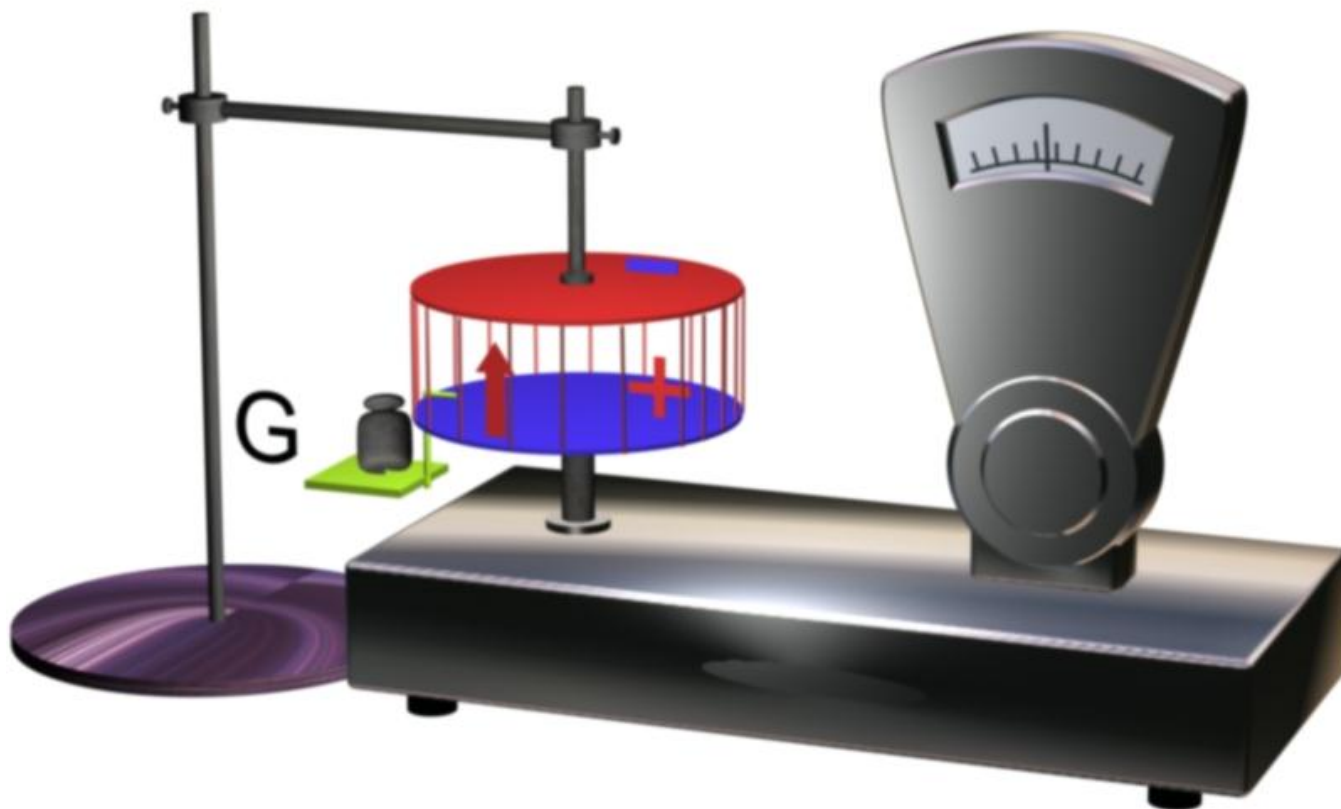
ELEKTROSTATIKA



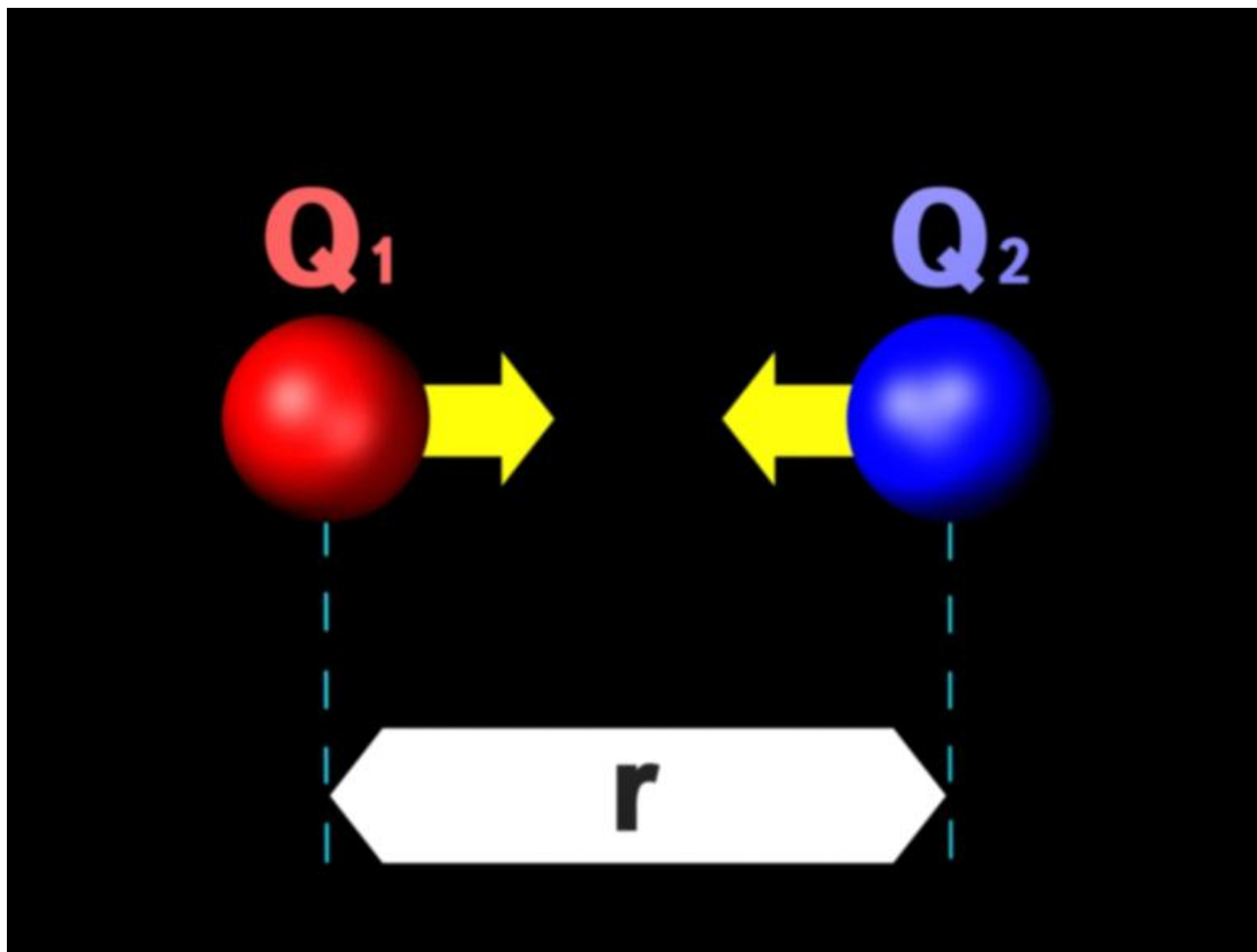
Musbat zaryadning kuch chiziqlari



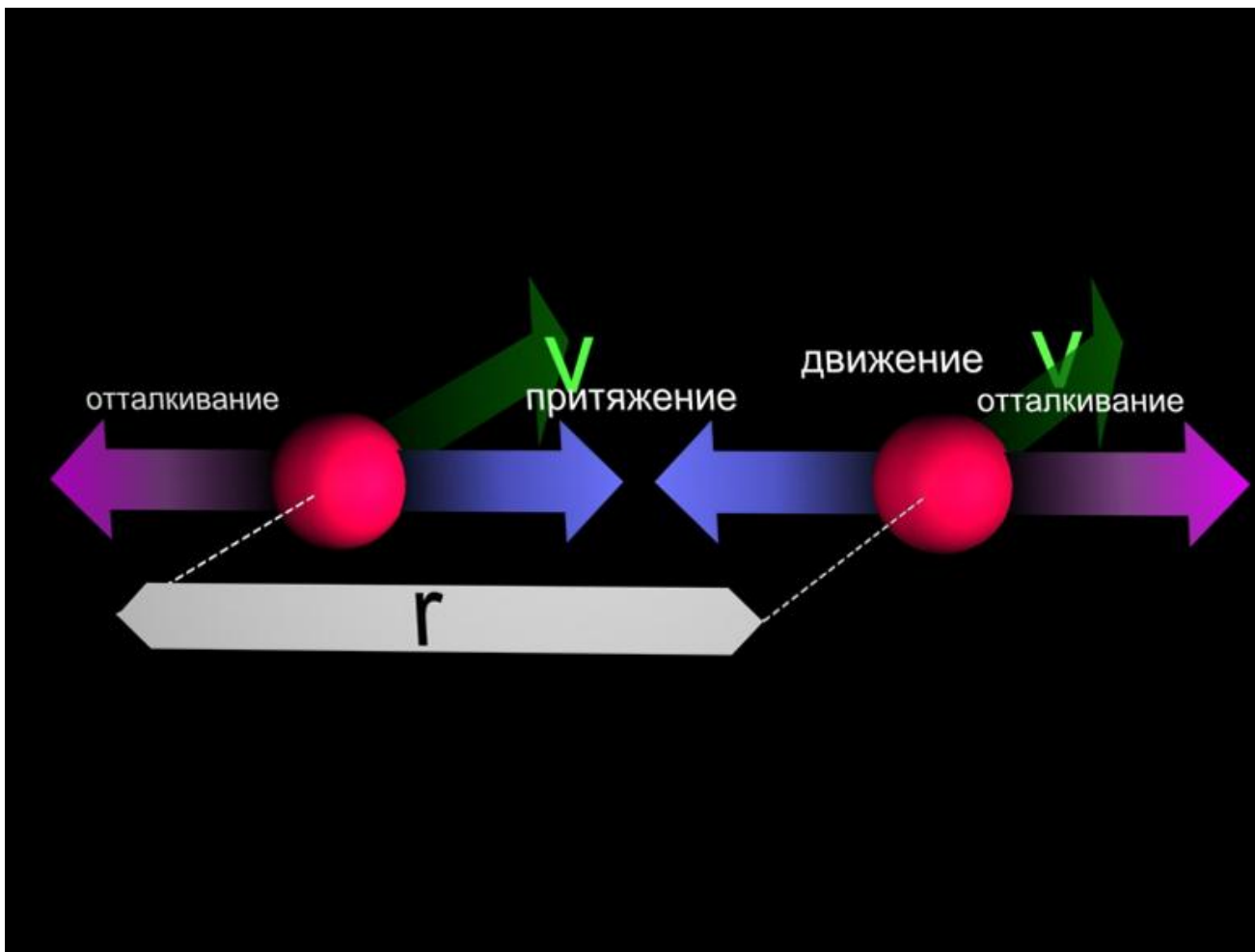
Dipolning kuch chiziqlari



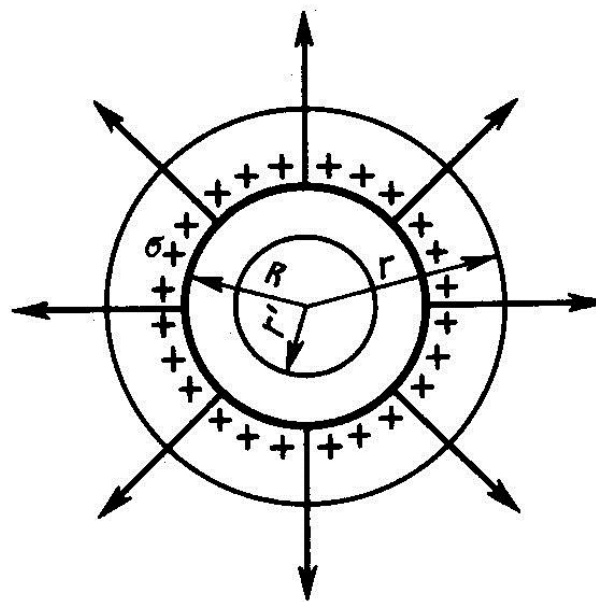
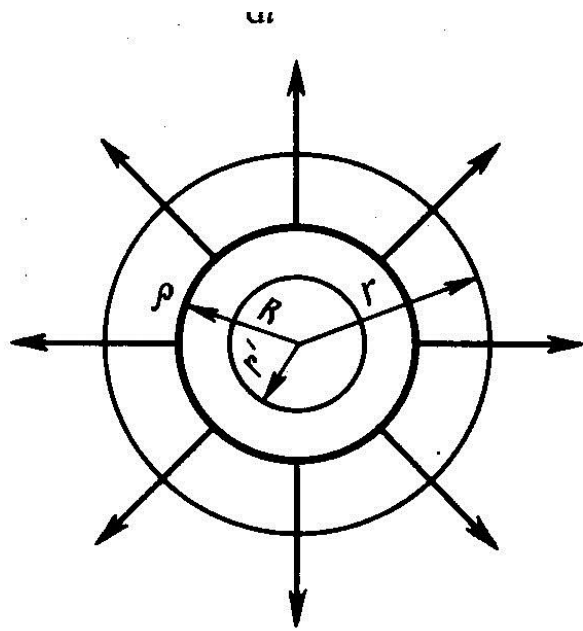
Elektr maydonining kuchi



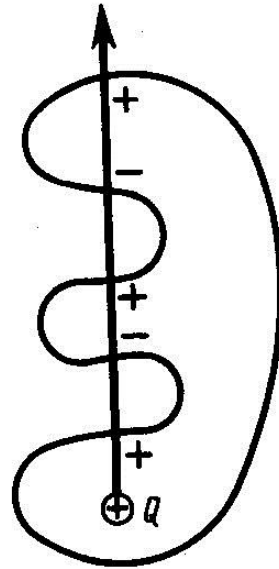
Zaryadlarning o'zaro ta'siri



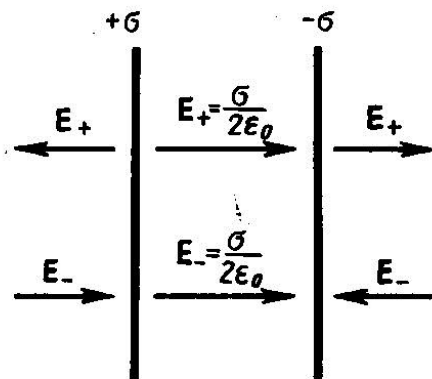
Zaryadlarning o'zaro ta'siri



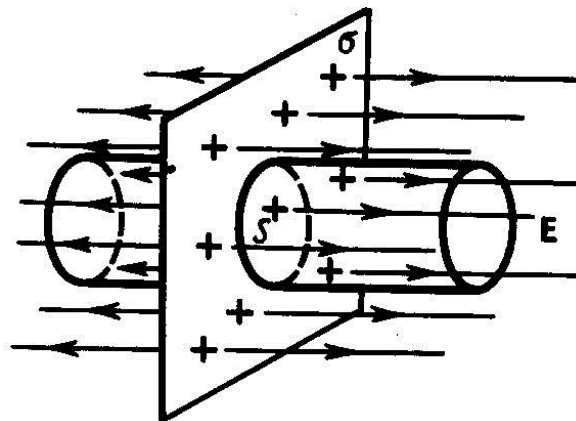
Sferik sirt orqali elektr maydon oqimi



Ixtiyoriy shaklga ega bo'lgan sirt orqali oqim

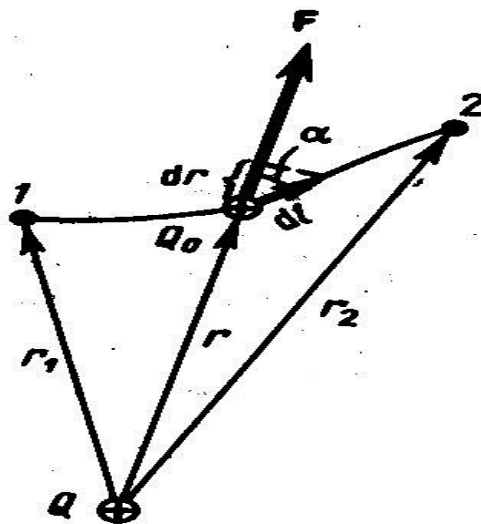


$$E = \frac{\sigma}{\epsilon_0}$$



$$E = \frac{\sigma}{2\epsilon_0}$$

Yakka va parallel tekisliklarning elektr maydon kuchlanganligi



$$dA = \frac{1}{4\pi\epsilon_0} \frac{q \cdot q_0}{r^2} dr$$

$$A_{MN} = \int dA = \frac{1}{4\pi\epsilon_0} qq^0 \int_{r_m}^{r_N} \frac{dr}{r^2} = \frac{1}{4\pi\epsilon_0} \frac{qq^0}{r_m} - \frac{1}{4\pi\epsilon_0} \frac{qq^0}{r_N}$$

$$E_P = \frac{1}{4\pi\epsilon_0} \frac{q \cdot q_0}{r}$$

Elektr maydonida zaryadni ko'chirishda bajarilgan ish

Potensial energiyani maydonga kiritilgan zaryadga nisbati bilan o'lchanadigan kattalikka maydon potentsiali deyiladi

$$\varphi = \frac{E_p}{q_0}$$

$$\varphi = \frac{E_p}{q_0} = \frac{1}{4\pi\epsilon_0} \frac{q}{r}$$

(2) Nuqtaviy zaryadning potentsiali

Ekvipotensial sirt

Potensiallari teng bo'lgan nuqtalarning geometrik o'rinlaridan tashkil topgan sirt ekvipotensial sirt deyiladi. Ekvipotensial sirt bo'ylab zaryadni ko'chirishda bajarilgan ish 0 ga teng bo'ladi.

Elektr maydonning potentsiali va kuchlanganligi orasidagi bog'lanish.

$$E = -\frac{d\varphi}{dr}$$

$$\frac{d\varphi}{dr} = \text{grad}\varphi \quad - \text{potensial gradienti}$$

$$E = -\text{grad}\varphi$$

