Magnetic Field of a Moving Point Charge

(1) Magnetic field $\vec{B}$ generated by point charge $q$: $\vec{B} = \mu_0 \frac{q\vec{v} \times \hat{r}}{4\pi r^2}$

(2) Force $\vec{F}_1$ exerted by field $\vec{B}$ on point charge $q_1$: $\vec{F}_1 = q_1 \vec{v}_1 \times \vec{B}$

(1+2) There is a time delay between causally related events over distance.

• Permeability constant
  $\mu_0 = 4\pi \times 10^{-7}$ Tm/A