DNA

100 DNA Walker

[]

$$\frac{\partial \rho}{\partial t} = D\frac{\partial^2 \rho}{\partial x^2}$$

$t = 0 \quad x = 0 \quad \rho(x, 0) = \delta(x)$

$$\rho(x, t) = \frac{1}{\sqrt{4\pi D t}} e^{\frac{x^2}{4Dt}},$$

t

$$\langle x \rangle = 0, \quad \left\langle x^2 \right\rangle = 2Dt,$$

$\int_{-\infty}^{\infty} \rho(x, t) \mathrm{d}\, t = 1$

$$\sqrt{\langle x^2 \rangle} = \sqrt{2Dt},$$

$\frac{1}{2}$