

# 1 Dimensional Probability of Identity, $\psi(x)$

Distance,  $x$

$\bar{x}$

$\delta$

1

2

One Long Jump

$$\psi \propto \frac{D_\alpha}{\rho \mu^2} x^{-1-\alpha}$$

One Quick Jump

$$\psi \propto \frac{x^{-1+\alpha}}{D_\alpha \rho}$$

Initial Contact

$$\psi \sim \delta^{-1+\alpha} / (D_\alpha \rho)$$

Superdiffusive Spreading

$$\psi(0) - \psi \propto \frac{x^{\alpha-1}}{D_\alpha \rho}$$

Diffusive Spreading

$$\psi \propto e^{-x/\bar{x}}$$

Tail Parameter,  $\alpha$