

$$A \subset r \uparrow s$$

$$A: r < t_1 < \dots < t_n < s$$

$$t_0 = r: \quad t_{n+1} = s$$

$$\uparrow = \begin{matrix} 1 \\ \vdots \\ n \end{matrix} \in {}_n \mathbb{R}$$

$${}_0 \uparrow = x: \quad {}_{n+1} \uparrow = y$$

$$r|s \xrightarrow[\text{path}]{\uparrow} \mathbb{R}: \quad \int_{dt}^{r|s} \frac{m}{2} \frac{\uparrow}{t} + {}^t \uparrow V$$

$$\int_{d\uparrow}^{x|y} \exp \frac{-1}{\hbar} \int_{dt}^{r|s} \left(\frac{m}{2} \frac{\uparrow}{t} + {}^t \uparrow V \right) \underset{A}{\simeq} \int_{d\uparrow}^{\mathbb{R}_n} \exp \frac{-1}{\hbar} \sum_j^{0|n} \left(\frac{m}{2} \frac{{}^{\uparrow^2} j \uparrow}{t_{j+} - t_j} + \overline{t_{j+} - t_j} {}^{j+1} \uparrow V \right)$$

$$r|s \xrightarrow[\text{cl path}]{\uparrow} \mathbb{R}: \quad m_{t} \uparrow = {}^t \uparrow V$$

$$\int_{dt}^{r|s} \frac{m}{2} \frac{\uparrow}{t} + {}^t \uparrow V$$

$$r|s \xrightarrow[\text{path}]{\uparrow} \mathbb{R}: \quad {}^t \uparrow = {}^t \uparrow - {}^t \uparrow$$

$$\frac{\int_{d\uparrow}^{x|y} \exp \frac{-1}{\hbar} \int_{dt}^{r|s} \left(\frac{m}{2} \frac{\uparrow}{t} + {}^t \uparrow V \right)}{\exp \frac{-1}{\hbar} \int_{dt}^{r|s} \frac{m}{2} \frac{\uparrow}{t} + {}^t \uparrow V} = \int_{d\uparrow}^{0|0} \exp \frac{-1}{\hbar} \int_{dt}^{r|s} \left(\frac{m}{2} \frac{\uparrow}{t} + {}^t \uparrow V \right)$$