(13)

$$\frac{\partial \phi}{\partial t}(t,x) = -\frac{1}{2} t^{-3/2} \left(\varphi\left(\frac{x}{\sqrt{t}}\right) + \frac{x}{\sqrt{t}} \varphi'\left(\frac{x}{\sqrt{t}}\right) \right)$$

$$= -\frac{1}{2} t^{-3/2} \left(1 - \frac{x^2}{t}\right) \varphi\left(\frac{x}{\sqrt{t}}\right)$$

$$\frac{\partial^2 \phi}{\partial x^2}(t,x) = t^{-3/2} \varphi''\left(\frac{x}{\sqrt{t}}\right)$$

$$= t^{-3/2} \left(\frac{x^2}{t} - 1\right) \varphi\left(\frac{x}{\sqrt{t}}\right)$$

□