

**Johannes Byle**

**13.3**

$$T = \frac{1}{2}m(\dot{x}^2 + \dot{y}^2)$$

$$H = \frac{1}{2}m(\dot{x}^2 + \dot{y}^2) + U(x, y)$$

Since both the potential energy and the kinetic energy are dependent on  $x$  and  $y$  neither are ignorable.