

$$\begin{array}{ccc}
& \sigma & \\
& \searrow & \\
\tilde{\hbar} \triangleleft \mathbb{R} & \xleftarrow{\varrho} & \tilde{\hbar} \triangleleft \mathbb{R} \cap \tilde{\hbar} \triangleleft \mathbb{R}
\end{array}$$

$$2\mathcal{L}(\gamma) = \int_{dxdydz}^{\tilde{\hbar}} \partial_x^2 \gamma + \partial_y^2 \gamma + \partial_z^2 \gamma \geqslant 0$$

$$\mathcal{L}_\eta \tau = - \int_{dxdydz}^{\tilde{\hbar}} \tau \overline{\partial_x^2 \gamma + \partial_y^2 \gamma + \partial_z^2 \gamma}$$

$$\mathcal{L}_\eta \tau = \int_{dxdydz}^{\tilde{\hbar}} \widehat{\partial_x \tau} \widehat{\partial_x \gamma} + \widehat{\partial_y \tau} \widehat{\partial_y \gamma} + \widehat{\partial_z \tau} \widehat{\partial_z \gamma}$$

$$\tilde{\hbar} \widehat{\tau} = 0 \Rightarrow 0 = \int \tau \underbrace{\widehat{\partial_x \gamma} dy \boxtimes dz + \widehat{\partial_y \gamma} dz \boxtimes dx + \widehat{\partial_z \gamma} dx \boxtimes dy}_{}$$

$$\stackrel{\text{sto}}{=} \int d \left(\tau \underbrace{\widehat{\partial_x \gamma} dy \boxtimes dz + \widehat{\partial_y \gamma} dz \boxtimes dx + \widehat{\partial_z \gamma} dx \boxtimes dy}_{} \right)$$

$$= \int \underbrace{\widehat{\partial_x \tau} \widehat{\partial_x \gamma} + \widehat{\tau} \widehat{\partial_x^2 \gamma} + \widehat{\partial_y \tau} \widehat{\partial_y \gamma} + \widehat{\tau} \widehat{\partial_y^2 \gamma} + \widehat{\partial_z \tau} \widehat{\partial_z \gamma} + \widehat{\tau} \widehat{\partial_z^2 \gamma}}_{dx \boxtimes dy \boxtimes dz}$$

$$= \int_{dxdydz}^{\tilde{\hbar}} \widehat{\partial_x \tau} \widehat{\partial_x \gamma} + \widehat{\partial_y \tau} \widehat{\partial_y \gamma} + \widehat{\partial_z \tau} \widehat{\partial_z \gamma} + \widehat{\tau} \overline{\widehat{\partial_x^2 \gamma} + \widehat{\partial_y^2 \gamma} + \widehat{\partial_z^2 \gamma}} = \text{LHS} - \text{RHS}$$

$$0 = \mathcal{L}_\eta \tau = - \int_{dxdydz}^{\tilde{\hbar}} \tau \overline{\widehat{\partial_x^2 \gamma} + \widehat{\partial_y^2 \gamma} + \widehat{\partial_z^2 \gamma}} \Rightarrow \partial_x^2 \gamma + \partial_y^2 \gamma + \partial_z^2 \gamma = 0$$