

$$\hat{J} = {}_{\alpha}J \mathbf{x} \bar{J}^{\alpha}$$

$$z \hat{J}_w = z {}_{\alpha}J w \bar{J}^{\alpha}$$

$$\hat{J}_w = {}_{\iota}J w \bar{J}^{\alpha}$$

$$w \hat{J} = w {}_{\alpha}J \bar{J}^{\alpha}$$

$$\underbrace{J \hat{J}}_w = \mathcal{B} \left(w \hat{J} \hat{J}_w \right)$$

$$w \hat{J} \hat{J}_w = w {}_{\alpha}J w \bar{J}^{\beta} \bar{J}^{\alpha} \beta \downarrow$$

$$\Delta = \delta \partial \bar{\partial}$$

$$\begin{aligned} \underbrace{\Delta w \hat{J} \hat{J}_w}_w &= w {}_{\alpha}J w \bar{J}^{\beta} \underbrace{\Delta \bar{J}^{\alpha} \beta}_w = w {}_{\alpha}J w \bar{J}^{\beta} w \delta \underbrace{\partial \bar{\partial} \bar{J}^{\alpha} \beta}_w \\ &= w {}_{\alpha}J w \bar{J}^{\beta} w \delta \underbrace{\bar{\partial} \bar{J}^{\alpha}}_w \underbrace{\partial \beta}_w = w \delta \underbrace{\bar{\partial} \bar{J}^{\alpha}}_w \underbrace{\partial \bar{J}^{\beta}}_w = w \delta \underbrace{\bar{\partial} J}_w \underbrace{\partial \downarrow} \end{aligned}$$

$$\hat{\Delta} = \hat{\delta} \bar{\delta} \mathbf{x} \delta$$

$$\hat{J} \hat{J} = {}_{\alpha}J \mathbf{x} \bar{J}^{\alpha} \beta \mathbf{x} \bar{J}^{\beta} = \underbrace{{}_{\alpha}J \mathbf{x} \beta}_w \underbrace{\mathbf{x} \bar{J}^{\alpha} \bar{J}^{\beta}}_w$$

$$\hat{\Delta} \hat{J} \hat{J} = \hat{\delta} \bar{\delta} \mathbf{x} \delta$$