

$$\bar{e}_k e_k (dz_J \wedge d\bar{z}_k) = \begin{cases} 0 & \text{if } k \in J \\ \omega dz_J \wedge d\bar{z}_k, & \text{if } k \notin J \end{cases}$$

while

$$e_k \bar{e}_k (dz_J \wedge d\bar{z}_k) = \begin{cases} \omega dz_J \wedge d\bar{z}_k, & k \in J \\ 0 & k \notin J. \end{cases}$$

$$\square. \quad e_k (dz_J \wedge d\bar{z}_k) = dz_k \wedge dz_J \wedge d\bar{z}_k = 0 \Rightarrow \bar{e}_k e_k (dz_J \wedge d\bar{z}_k) = 0 \quad \text{if } k \in J.$$

$$\text{If } k \notin J, \quad e_k (dz_J \wedge d\bar{z}_k) = dz_k \wedge dz_J \wedge d\bar{z}_k$$

$$\Rightarrow \bar{e}_k e_k (dz_J \wedge d\bar{z}_k) = \omega dz_J \wedge d\bar{z}_k$$

$$\bar{e}_k (dz_J \wedge d\bar{z}_k) = 0 \quad \text{if } k \notin J \Rightarrow e_k \bar{e}_k (dz_J \wedge d\bar{z}_k) = 0$$

$$\text{If } k \in J, \quad dz_J = \epsilon dz_k \wedge dz_{J-k}$$

$$\Rightarrow \bar{e}_k (\epsilon dz_k \wedge dz_{J-k} \wedge d\bar{z}_k) = \epsilon \omega dz_{J-k} \wedge d\bar{z}_k.$$

$$e_k (\epsilon \omega dz_{J-k} \wedge d\bar{z}_k) = \omega \epsilon dz_k \wedge dz_{J-k} \wedge d\bar{z}_k \\ = \omega dz_J \wedge d\bar{z}_k \quad \underline{\underline{=}}$$

$$\text{Thus} \quad \bar{e}_k e_k + e_k \bar{e}_k = \omega.$$

$$\text{and likewise} \quad \bar{e}_k \bar{e}_k + \bar{e}_k \bar{e}_k = \omega.$$

On the other hand, we have for  $k \neq l$ ,

$$\begin{aligned} \bar{e}_k e_l (dz_k \wedge dz_J \wedge d\bar{z}_k) &= \bar{e}_k (dz_l \wedge dz_k \wedge dz_J \wedge d\bar{z}_k) \\ &= \bar{e}_k (-dz_k \wedge dz_l \wedge dz_J \wedge d\bar{z}_k) = -\omega dz_l \wedge dz_J \wedge d\bar{z}_k \\ &= -\omega e_l (dz_J \wedge d\bar{z}_k) = -e_l \bar{e}_k (dz_k \wedge dz_J \wedge d\bar{z}_k) \end{aligned}$$

$$\text{while} \quad \bar{e}_k e_l (dz_J \wedge d\bar{z}_k) = e_l \bar{e}_k (dz_J \wedge d\bar{z}_k) = 0$$

in case  $k \notin J$ , so we have

$$e_k \bar{e}_l + \bar{e}_l e_k = 0.$$

$$\text{Similarly, we have} \quad e_k \bar{e}_l + \bar{e}_l e_k = 0.$$