

$$\Rightarrow \in (-1)^{(j, I \cup \{j\})-1} \frac{\sqrt{-1}}{2} (df_j \wedge d\bar{f}_j) \wedge \text{darg } f_{i_1} \wedge \dots \wedge \text{darg } f_{i_p} \wedge ()$$

$$= \text{darg } f_{i_1} \wedge \dots \wedge \text{darg } f_{i_p} \wedge ()$$

$$\Rightarrow \in (-1)^{(j, I \cup \{j\})-1} \text{darg } f_{i_1} \wedge \dots \wedge \text{darg } f_{i_p} \wedge ()$$

$$= \text{darg } f_{i_1} \wedge \dots \wedge \text{darg } f_{i_p} \wedge ()$$

$$\Rightarrow \epsilon = (-1)^{(j, I \cup \{j\})-1} \cdot \text{where } \partial P_I = \sum_{j \notin I} \epsilon_j P_{I \cup \{j\}}$$

$$\sum_{\#I=p} \int_{P_I} \omega_{p-1, I} = \sum_{\#I=p} \int_{P_I} d\zeta_{p, I}$$

$$= \sum_{\#I=p} \int_{\partial P_I} \zeta_{p, I}$$

$$= \sum_{\#I=p} \left(\sum_{j \notin I} \int_{P_{I \cup \{j\}}} (-1)^{(j, I \cup \{j\})-1} \zeta_{p, I} \right)$$

$$= \sum_{\#J=p+1} \int_{P_J} \sum_{j \in J} (-1)^{(j, J)-1} \zeta_{p, J-\{j\}} \Rightarrow n C_{p+1} \times (p+1)$$

$$= \sum_{\#J=p+1} \int_{P_J} (\delta \zeta_{p, J})$$

$$= \sum_{\#J=p+1} \int_{P_J} \omega_{p, J}$$

$$\Rightarrow \sum_{\#I=p} \int_{P_I} \omega_{p-1, I} = \sum_{\#I=p+1} \int_{P_I} \omega_{p, I}$$

\Rightarrow The total sum $\sum_{\#I=p+1} \int_{P_I} \omega_{p, I}$ is the same for all p.

One more thing has to be explained more clearer.

$$U = \{u_i\}$$

$$0 \rightarrow C^{p-1}(U, Z_{\partial}^{n, n-p-1}) \rightarrow C^{p-1}(U, a^{n, n-p-1}) \rightarrow C^{p-1}(U, Z_{\partial}^{n, n-p}) \rightarrow 0$$

$$\begin{array}{ccccccc} & & \downarrow \delta & & \downarrow \delta & & \downarrow \delta \quad \psi \omega_{p-1} \\ 0 \rightarrow C^p(U, Z_{\partial}^{n, n-p-1}) & \rightarrow & C^p(U, a^{n, n-p-1}) & \rightarrow & C^p(U, Z_{\partial}^{n, n-p}) & \rightarrow & 0 \end{array}$$