

lies to positive (p, p) currents.

⌈ Again see P 93. Theorem. Donoghue

⌈

$$\alpha_1 = a_{11} dz_1 + \dots + a_{n1} dz_n$$

$$\vdots$$

$$\alpha_{n-1} = a_{1,n-1} dz_1 + \dots + a_{n,n-1} dz_n$$

$$\Rightarrow \alpha_1 \wedge \dots \wedge \alpha_{n-1} = (a_{21}, a_{32}, \dots) dz_2 \wedge \dots \wedge dz_n$$

$$= \det(A_{11}) dz_1 \wedge \dots \wedge dz_n + {}^{(\pm)} \det(\dots) dz_1 \wedge \dots \wedge dz_n + \dots$$

Given  $\lambda_1 dz_1 \wedge \dots \wedge dz_n + \lambda_2 dz_1 \wedge dz_3 \wedge \dots \wedge dz_n + \dots + \lambda_n dz_1 \wedge \dots \wedge dz_{n-1}$ ,

we can find  $(a_{ij})$  s.t.  $\alpha_1 \wedge \dots \wedge \alpha_{n-1} = \lambda_1 dz_1 \wedge \dots \wedge dz_n$ .

Consider  $\lambda = (\lambda_1, -\lambda_2, \dots, \pm \lambda_n)$ , then we can find  $v_2, \dots, v_n$  s.t.

$\langle \lambda, v_2, \dots, v_n \rangle = \mathbb{C}^n$ , and  $v_i \perp v_j$ ,  $v_i \perp \lambda$ .

$$\Rightarrow \begin{vmatrix} v_{11}, \dots, v_{1n} \\ v_{21}, \dots, v_{2n} \\ \vdots \\ \lambda_1, \dots, \pm \lambda_n \end{vmatrix} \neq 0 \Rightarrow (\det(v_{ij})) \perp v_k$$

$\Rightarrow (\det(v_{ij})) \not\parallel \lambda \Rightarrow$  A vector consisting of  $\det$  of  $\lambda$   $\begin{smallmatrix} (n-1) \\ \times (n-1) \\ \text{matrix} \end{smallmatrix}$  By multiplying by some constant, we get  $\lambda$

⌈ Define  $T$  real by  $\overline{T(\varphi)} = T(\overline{\varphi}) (-1)^{(n-p)+1}$

Define a real current  $T$  positive by

$$\frac{n(n-1)}{2} \underbrace{(-1)^{n-1}}_{(-1)^{n-1}} \underbrace{(\sqrt{-1})}_{n-p} \wedge T(\eta \wedge \overline{\eta}) \geq 0, \quad \text{for all } \eta \in A_c^{n-p}(M).$$