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$\left.\frac{\wedge \cdots \wedge dz_n}{\cdots f_n(z)}\right)$.   Confusion again as on P426

The Global Residue Theorem

Suppose that $M \subset M'$ are complex n-manifolds, where M is relatively compact with smooth boundary $\partial M = \bar{M} - M$. The case that $M = M'$ is itself compact will be in many respects the most interesting situation. Suppose that $D_1, \cdots D_n$ are effective divisors defined in some nbd U of $\bar{M}$ in M' and whose intersection $D_1 \cap \cdots \cap D_n$ is a discrete - hence finite - set of points in M. By analogy with the previous notation, we set

$$D = D_1 + \cdots + D_n,$$
$$U^* = U - (D_1 \cap \cdots \cap D_n),$$
$$U_i = U - D_i$$

so that $\underline{U} = \{U_i\}$ is an open covering of U^*. Suppose that

$$\omega \in H^0(U, \Omega^n(D))$$

is a meromorphic n-form on U with polar divisor D. For each point $p \in U_1 \cap \cdots \cap U_n$ we may restrict ω to a nbd U_p of p and define the residue

$$\mathrm{Res}_p\, \omega$$

as in the previous section. On the other hand,

$$\omega \in C^{n-1}(\underline{U}, \Omega^n)$$

defines a class $[\omega] \in H^{n-1}(U^*, \Omega^n)$ that has a Dolbeault representative