one.

⌜ $\eta(f_1, \cdots f_n) = \eta(\omega(f_1, \cdots f_n)) = \eta\left(\frac{df_1}{f_1} \wedge \cdots \wedge \frac{df_n}{f_n}\right)$

$$= \eta\left(J_f(z) \frac{dz_1 \wedge \cdots \wedge dz_n}{f_1 \cdots f_n}\right)$$

$$= J_f(z) \left[C_n \frac{\sum (-1)^{i-1} \bar{f}_i \, d\bar{f}_1 \wedge \cdots \wedge \widehat{d\bar{f}_i} \wedge \cdots \wedge d\bar{f}_n \wedge dz_1 \wedge \cdots \wedge dz_n}{\|f\|^{2n}} \right]$$

$$= \frac{C_n \sum (-1)^{i-1} \bar{f}_i \, d\bar{f}_1 \wedge \cdots \wedge \widehat{d\bar{f}_i} \wedge \cdots \wedge d\bar{f}_n \wedge df_1 \wedge \cdots \wedge df_n}{\|f\|^{2n}}$$

$$= f^*\left(C_n \frac{\sum (-1)^{i-1} \bar{w}_i \, d\bar{w}_1 \wedge \cdots \wedge \widehat{d\bar{w}_i} \wedge \cdots \wedge d\bar{w}_n \wedge dw_1 \wedge \cdots \wedge dw_n}{\|w\|^{2n}} \right)$$

See P371. ⌟

On every sphere $\|z\| = \varepsilon$ the form $f^*(\beta)$ is ≥ 0, and it is strictly positive at a point z_0 where $(df_1 \wedge \cdots \wedge df_n)(z_0) \neq 0$. For a sphere passing through such a point,

$$\int_{\|z\| = \|z_0\|} f^*\beta > 0.$$

This proves the positivity of the local intersection number.

⌜ Since f is holomorphic, f^* preserves the orientation. By convention, since we give an orientation on S^{2n-1} as follows

outward normal directional vector $\wedge\ \eta =$

$=$ orientation on $\mathbb{C}^n \equiv \mathbb{R}^{2n}$

Let σ be the orientation on $\mathbb{C}^n \equiv \mathbb{R}^{2n}$. $\Rightarrow$ $\sigma = \nu \wedge \beta$.