$$\Theta(T_Z, 0) = \lim_{r\to 0} \int_{Z[r]} \Omega^{n-1},$$

where $Z[r] \subset \mathbb{P}^{n-1}$ is the set of lines $\overrightarrow{oq}$ for $q \in Z \cap B[r]$ and Ω is the standard Kähler form on $\mathbb{P}^{n-1}$.

Γ $$\Theta(T_Z, 0) = \frac{1}{\pi^{n-1}} \lim_{r\to 0} \Theta(T_Z, 0, r)$$

$$= \frac{1}{\pi^{n-1}} \lim_{r\to 0} \frac{1}{r^{2n-2}} T_Z(\chi(r)\,\omega^{n-1})$$

$$= \frac{1}{\pi^{n-1}} \lim_{r\to 0} \frac{1}{r^{2n-2}} \int_{Z\cap B[r]} \omega^{n-1}$$

By choosing proper coordinates, we may assume that $Z = (z_n = 0)$ around the origin.

$\Rightarrow$ $Z \cap B[r] = \{ (z_1, \cdots z_{n-1}) ;\ |z_1|^2 + \cdots + |z_{n-1}|^2 \leq r \}$

$$\mathbb{P}^{n-1} \longrightarrow Z \cap B[r]$$
$$U_0 = (w_0 \neq 0) \quad \psi : [w_0, \cdots w_{n-1}] \longmapsto \left(\frac{w_1}{w_0}, \cdots \frac{w_{n-1}}{w_0}\right)$$

$$\Rightarrow \psi^{-1}(Z\cap B[r]) = \left\{ [w_0, \cdots w_{n-1}] ;\ \left|\frac{w_1}{w_0}\right|^2 + \cdots + \left|\frac{w_{n-1}}{w_0}\right|^2 \leq r \right\}$$

$=$ The set of lines $\overrightarrow{oq}$ for $q \in Z \cap B[r] = Z[r]$.

$$\frac{\omega}{\pi r^2} = \frac{\sqrt{-1}}{2\pi r^2} \sum dz_i \wedge d\bar{z}_i = \frac{\sqrt{-1}}{2\pi} \partial\bar{\partial} \log \|z\|^2 + \frac{1}{\|z\|^4}(\bar{z}_j dz_j \wedge z_i d\bar{z}_i) \text{ some constant}$$

$\Rightarrow$ $\psi^*\left(\frac{\omega}{\pi r^2}\right) = \Omega + (\text{something})$ is the standard Kähler form on $\mathbb{P}^{n-1}$.

$$= \frac{1}{\pi^{n-1}} \lim_{r\to 0} \frac{1}{r^{2n-2}} \int_{Z\cap B[r]} \omega^{n-1} = \lim_{r\to 0} \int_{Z[r]} \Omega^{n-1}.$$

see more on next page