In general, we set

$$\Theta(T, p', r) = \frac{1}{r^{2n-2p}} T(\chi(r)\,\omega^{n-p})$$

and shall prove the

Lemma. $\Theta(T, p', r)$ is an increasing function of r.

Proof. The smoothing T_ϵ of a closed, positive current is again a closed, positive current.

$$T = \sum T_{I\bar{J}}\, dz_I \wedge d\bar{z}_J \Rightarrow T_\epsilon = \sum (T_{I\bar{J}})_\epsilon\, dz_I \wedge d\bar{z}_J$$

$$\Rightarrow d(T_\epsilon) = \sum d(T_{I\bar{J}})_\epsilon \wedge dz_I \wedge d\bar{z}_J$$

$$= \sum \left\{ \frac{\partial (T_{I\bar{J}})_\epsilon}{\partial z_i} dz_i + \frac{\partial (T_{I\bar{J}})_\epsilon}{\partial \bar{z}_j} d\bar{z}_j \right\} \wedge dz_I \wedge d\bar{z}_J$$

by P374.3

$$= \sum \left\{ \left(\frac{\partial T_{I\bar{J}}}{\partial z_i}\right)_\epsilon dz_i + \left(\frac{\partial T_{I\bar{J}}}{\partial \bar{z}_j}\right)_\epsilon d\bar{z}_j \right\} \wedge dz_I \wedge d\bar{z}_J$$

$$= \sum (dT_{I\bar{J}})_\epsilon \wedge dz_I \wedge d\bar{z}_J$$

$$= (dT)_\epsilon \quad \Rightarrow \quad \text{If } dT = 0,\ dT_\epsilon = 0.$$

For positiveness, it is more delicate.

In case $p = 1$, we proved that $T = \sum T_{i\bar{j}}\, dz_i \wedge d\bar{z}_j$ is positive $\Leftrightarrow$ $T(\lambda)(\alpha) = C_n \sum_{i,j} T_{i\bar{j}}(\alpha)\,\lambda_i \bar{\lambda}_j \geq 0$ by P386.

for all $\alpha \geq 0$, where C_n is some constant depending on n.