If ψ is harmonic and the hermitian form $R_{i\bar{j}}\xi^i\bar{\xi}^j$ is positive definite, then we deduce that $\psi \equiv 0$.

Γ ψ is harmonic $\Leftrightarrow$ $\Delta\psi = 0$.

$$LHS = 0 = \|\bar{\nabla}\psi\|^2 + (R\psi, \psi)$$
$$= \|\bar{\nabla}\psi\|^2 + q\int_M \Sigma(R_{i\bar{j}}\,\psi_{\bar{i}_1\cdots\bar{i}_{q-1}\bar{i}}\,\overline{\psi_{\bar{i}_1\cdots\bar{i}_{q-1}\bar{j}}})\,\Phi$$

Since R is positive definite, $\langle R(\psi), \psi\rangle \geq 0$.

$\Rightarrow$ $\|\bar{\nabla}\psi\|^2 = 0$ $\Rightarrow$ $\bar{\nabla}\psi = 0$.

$$\psi = \Sigma\,\psi_I\,\overline{\varphi_I}$$
$$\bar{\nabla}\psi = \Sigma\,\bar{\partial}\psi_I \otimes \overline{\varphi_I} + \psi_I\,\bar{\partial}\overline{\varphi_I}$$

$\Rightarrow$ Since $\Delta\psi = 0$, $\bar{\partial}\psi = 0$. $\Rightarrow$ the 1st term is zero. $\Rightarrow$ $\psi_I\,\bar{\partial}\overline{\varphi_I} = 0$. $\Rightarrow$ This is not the right way to go further

Γ For each fixed $i_1 \cdots i_{q-1}$.

$\sum_{i,j} R_{i\bar{j}}\,\psi_{\bar{i}_1\cdots\bar{i}_{q-1}\bar{i}}\,\overline{\psi_{\bar{i}_1\cdots\bar{i}_{q-1}\bar{j}}}$ is positive definite

$\Rightarrow$ $\sum_{i,j} R_{i\bar{j}}\,\psi_{\bar{i}_1\cdots\bar{i}_{q-1}\bar{i}}\,\overline{\psi_{\bar{i}_1\cdots\bar{i}_{q-1}\bar{j}}} \geq 0$. $\Rightarrow$ Equality holds

$\Leftrightarrow$ $\psi_{\bar{i}_1\cdots\bar{i}_{q-1}\bar{i}} = 0$ for all i.

Since $\{i_1 \cdots i_{q-1}\}$ is arbitrary, $\psi_{\bar{I}} = 0$.

$\Rightarrow$ $\psi = 0$ 」」