

We will see later that the meromorphic n -forms on \mathbb{P}^n are easy to describe, so that we can readily write down the holomorphic $(n-1)$ -forms on V .

$$\begin{array}{ccccccc}
 \sqcup & 0 & \longrightarrow & \Omega_M^n & \longrightarrow & \Omega_M^n(V) & \xrightarrow{\text{P.R.}} \Omega_V^{n-1} \longrightarrow 0 \\
 & & & \updownarrow & & \updownarrow \otimes s_0 & \nearrow \text{P.R.} \\
 & & & \Omega_M^n & \hookrightarrow & K_M(-V) & = \text{the sheaf of} \\
 & & & & & & \text{meromorphic sections of } K_M \\
 & & & & & & \text{with poles of order } \leq 1 \text{ on } V
 \end{array}$$

where s_0 is the section of $[V]$ with divisor V .

$$\omega \in \Omega_M^n \Rightarrow \frac{\omega}{s_0} \quad \frac{\omega_\alpha}{(s_0)_\alpha} = \frac{h_{\alpha\beta} \omega_\beta}{g_{\alpha\beta}(s_0)_\beta} \in K_M(-V)$$

$\Rightarrow \Omega_M^n$ is not a holomorphic sect.

\Rightarrow

$$\begin{array}{ccccccc}
 0 & \longrightarrow & \Omega_M^n & \longrightarrow & K_M(-V) & \xrightarrow{\text{P.R.}} & \Omega_V^{n-1} \longrightarrow 0 \\
 & & & & \parallel \cong \text{identification} & & \\
 & & & & \Omega_M^n(V) & &
 \end{array}$$

\sqcup