

Any element in  $\text{im } f$  is homologous to a closed meromorphic 2-form on  $M$  (up to an exact form on  $M$  - some divisor).  $\Rightarrow$  By the definition on P456,  $\checkmark$  the element is a differential of the second.  $\Rightarrow$

It is clear that the identification

$$\text{image } \{ 'E^{p,0} \rightarrow H^p(\Omega(*)) \} \cong \frac{\{ p\text{-forms of the second kind} \}}{\{ \text{exact forms} \}}$$

kind

allows the above proof to continue, but the subsequent interpretation of the numbers  $p_p$  has yet to yield much geometric information. So we shall conclude with some further remarks on the cases  $p=1, 2$ .

$$\Gamma \quad 'E_2^{p,0} = H^p(M, \mathcal{H}^0(\Omega(*))) = H^p(M, \mathbb{C}) \text{ by } (**) \text{ on P458.}$$

$$\frac{F^0 H^p}{F^1 H^p} = 'E_\infty^{0,p} \quad \frac{F^1 H^p}{F^2 H^p} = 'E_\infty^{1,p-1} \quad \frac{F^2 H^p}{F^3 H^p} = 'E_\infty^{2,p-2} \dots \frac{F^p H^p}{F^{p+1} H^p} = 'E_\infty^{p,0}$$

$$\Rightarrow 0 \rightarrow F_1^1 H^p \xrightarrow{\quad} F^0 H^p = H^p$$

$$'E_\infty^{0,p} \oplus 'E_\infty^{1,p-1} \oplus \dots \oplus 'E_\infty^{p,0}$$

$$'E_2^{p+2,1} \xrightarrow{d_2} 'E_2^{p,0} \xrightarrow{d_2} 'E_{2 \gg 0}^{p+2,-1}$$

$$\Rightarrow 'E_3^{p,0} = \frac{'E_2^{p,0}}{\text{im } d_2}$$