$$\mathbb{H}^p(\Omega(*)) \cong \frac{\{\text{closed meromorphic } p\text{-forms}\}}{\{\text{exact forms}\}}.$$

Γ Since $''E_2^{p,q} = H_d^p(H^q(M, \Omega(*)))$ & $H^q(M, \Omega(*)) = 0$ for $q>0$, for $q>0$, $''E_2^{p,q} = 0$.

$\Rightarrow$ By the same argument on P456 back note,

if $q>0$, $''E_2^{p,q} = {}'E_3^{p,q} = \cdots = 0$

if $q=0$

$$''E_2^{p,0} = ''E_3^{p,0} = \cdots = ''E_\infty^{p,0} = H_d^p(H^0(M, \Omega(*))$$

$$= \frac{\ker\{d : \Omega^p(*)(M) \longrightarrow \Omega^{p+1}(*)(M)\}}{\operatorname{im}\{d : \Omega^{p-1}(*)(M) \to \Omega^p(*)(M)\}} = \frac{\{\text{closed meromorphic } p\text{-forms}\}}{\{\text{exact forms}\}}.$$

$$\frac{\mathbb{H}^p(\Omega(*))}{''F^1\mathbb{H}^p(\Omega(*))} = ''E_2^{0,p} \Rightarrow \mathbb{H}^p(\Omega(*)) = ''E_2^{0,p} \oplus ''E_2^{1,p-1} \oplus \cdots$$

$$\oplus\ ''E_2^{p,0} \oplus ''F^{p+1}\,\mathbb{H}^p(\Omega(*)) = 0 \oplus 0 \oplus \cdots \oplus ''E_2^{p,0} \oplus$$

$$''F^{p+1}\,\mathbb{H}^p(\Omega(*)). = ''E_2^{p,0} \oplus ''F^{p+1}\,\mathbb{H}^p(\Omega(*)).$$

Remember $''F^{p+1}C^n = \bigoplus_{\substack{p+q''=n \\ q'' \geq p+1}} C^{p,q'} = \bigoplus C^p(\underline{\mathcal{U}}, \Omega^{q'}(*))$

and so if $p=n$, $''F^{p+1}C^p = 0$.

$\Rightarrow$ $''F^{p+1}\mathbb{H}^p(\Omega(*)) = 0$. $\Rightarrow$ $\mathbb{H}^p(\Omega(*)) = ''E_2^{p,0}$ ☺