

refer to P707.

"I think":  $d_n$  may not be a map from  $E_n^{0, n-1}$  to  $E_n^{n, 0}$ .

From

$$0 \rightarrow f_Z \rightarrow \mathcal{O} \rightarrow \mathcal{O}_Z \rightarrow 0,$$

we have the exact sequence of global Ext's as below

$$\begin{array}{ccccc} \text{Ext}^{n-1}(M; f_Z, \Lambda^n \mathcal{E}^*) & \rightarrow & \text{Ext}^n(M; \mathcal{O}_Z, \Lambda^n \mathcal{E}^*) & \xrightarrow{d_n} & \text{Ext}^n(M; \mathcal{O}, \Lambda^n \mathcal{E}^*) \\ \downarrow e & \longmapsto & \downarrow \bigoplus_{p \in Z} e_p & & \end{array}$$

$\Rightarrow$  By the spectral sequence relating global and local Ext's,

$$\begin{aligned} \text{Ext}^n(M; \mathcal{O}_Z, \Lambda^n \mathcal{E}^*) &\stackrel{\text{by P706}}{=} H^0(M, \underline{\text{Ext}}_0^n(\mathcal{O}_Z, \Lambda^n \mathcal{E}^*)) \\ &= H^0(M, \underline{\text{Ext}}_0^{n-1}(f_Z, \Lambda^n \mathcal{E}^*)) \end{aligned}$$

Since  $\underline{\text{Ext}}_0^q(\mathcal{O}_Z, \Lambda^n \mathcal{E}^*) = 0$  for  $q < n$

$$\begin{aligned} 0 = \underline{\text{Ext}}_0^{n-1}(\mathcal{O}, \Lambda^n \mathcal{E}^*) &\rightarrow \underline{\text{Ext}}_0^{n-1}(f_Z, \Lambda^n \mathcal{E}^*) \cong \underline{\text{Ext}}_0^n(\mathcal{O}_Z, \Lambda^n \mathcal{E}^*) \\ &\rightarrow \underline{\text{Ext}}_0^n(\mathcal{O}, \Lambda^n \mathcal{E}^*) \\ &\quad \parallel \\ &\quad 0 \end{aligned}$$

$$\text{Ext}^n(M; \mathcal{O}, \Lambda^n \mathcal{E}^*) = H^n(M, \Lambda^n \mathcal{E}^*) \text{ by P706.}$$

Thus we do not need to use  $\underline{\text{Ext}}_0^0(f_Z, \Lambda^n \mathcal{E}^*) \cong \Lambda^n \mathcal{E}^*$ .  
Then clearly, since the sequence is exact,

$$d_n\left(\bigoplus_{p \in Z} e_p\right) = 0.$$

Here we followed the procedure along P729.  $\square$

"Comment"

$$\begin{array}{ccc} \text{Ext}^{n-1}(M; f_Z, \Lambda^n \mathcal{E}^*) & \rightarrow & \text{Ext}^n(M, \mathcal{O}_Z, \Lambda^n \mathcal{E}^*) \\ & & \downarrow \bigoplus_{p \in Z} \underline{\text{Ext}}_0^{n-1}(f_Z, \Lambda^n \mathcal{E}^*)_p \end{array}$$