$$\underline{Ext}^0_{\mathcal{O}}(\mathcal{J}_Z, \Lambda^n\mathcal{E}^*) \cong \Lambda^n\mathcal{E}^*$$

from the section on Koszul complexes.

⌈ From $0 \longrightarrow \mathcal{J}_Z \longrightarrow \mathcal{O} \longrightarrow \mathcal{O}_Z \longrightarrow 0$, we have

$$\underset{\overset{\|}{0}}{\underline{Ext}^q_{\mathcal{O}}(\mathcal{O}, \mathcal{O})} \longrightarrow \underline{Ext}^q_{\mathcal{O}}(\mathcal{J}_Z, \mathcal{O}) \to \underline{Ext}^{q+1}_{\mathcal{O}}(\mathcal{O}_Z, \mathcal{O}) \to \underset{\overset{\|}{0}}{\underline{Ext}^{q+1}_{\mathcal{O}}(\mathcal{O}, \mathcal{O})}$$

for $q>0$. $\Rightarrow$ $\underline{Ext}^q_{\mathcal{O}}(\mathcal{J}_Z, \mathcal{O}) \cong \underline{Ext}^{q+1}_{\mathcal{O}}(\mathcal{O}_Z, \mathcal{O})$.

$q+1<n \Rightarrow \underline{Ext}^{q+1}_{\mathcal{O}}(\mathcal{O}_Z, \mathcal{O}) = 0$ by P690 & P706.

$\Rightarrow$ For $q \leq n-2$, $\underline{Ext}^q_{\mathcal{O}}(\mathcal{J}_Z, \mathcal{O}) = 0 \cdots$ ⊛.

$$d_n : E_n^{0,n-1} \longrightarrow E_n^{n,0}.$$

By P706, $E_2^{0,n-1} = H^0(M, \underline{Ext}^{n-1}_{\mathcal{O}}(\mathcal{J}_Z, \Lambda^n\mathcal{E}^*)) \cong \underset{H^0(M, \underline{Ext}^n_{\mathcal{O}}(\mathcal{O}_Z, \Lambda^n\mathcal{E}^*))}{\overset{\|}{Ext^n(M, \mathcal{O}_Z, \Lambda^n\mathcal{E}^*)}}$

$$0 \longrightarrow E_2^{0,n-1} \xrightarrow{d_2} E_2^{2,n-1-2+1}$$

$$\| \quad E_2^{2,n-2} = H^0(M, \underline{Ext}^{n-2}_{\mathcal{O}}(\mathcal{J}_Z, \Lambda^n\mathcal{E}^*)) = 0$$

since $\underline{Ext}^{n-2}_{\mathcal{O}}(\mathcal{J}_Z, \Lambda^n\mathcal{E}^*) = 0$ by ⊛.

$$\Rightarrow E_2^{0,n-1} = E_3^{0,n-1} = \cdots = E_n^{0,n-1} = \cdots E_\infty^{0,n-1}$$
$$= H^0(M, \underline{Ext}^{n-1}_{\mathcal{O}}(\mathcal{J}_Z, \Lambda^n\mathcal{E}^*)).$$

$$E_2^{n,0} = H^n(M, \underline{Ext}^0_{\mathcal{O}}(\mathcal{J}_Z, \Lambda^n\mathcal{E}^*)) = H^n(M, \Lambda^n(\mathcal{E}^*)),$$

for , from $0 \to \mathcal{J}_Z \longrightarrow \mathcal{O} \longrightarrow \mathcal{O}_Z \longrightarrow 0$,

$$0 \to \underline{Hom}(\underset{\overset{\|}{0}}{\mathcal{O}_Z, \mathcal{O}}) \to \underline{Hom}(\mathcal{O}, \mathcal{O}) \longrightarrow \underline{Hom}(\mathcal{J}_Z, \mathcal{O}) \to \underset{\overset{\|}{0}}{\underline{Ext}^1(\mathcal{O}_Z, \mathcal{O})}$$

$$\Rightarrow \underline{Hom}(\mathcal{J}_Z, \mathcal{O}) = \underline{Ext}^0(\mathcal{J}_Z, \mathcal{O}) \cong Hom(\mathcal{O}, \mathcal{O}) \cong \mathcal{O},$$