

Notice the following:

$$0 \longrightarrow R_0 \longrightarrow E_0 \xrightarrow{\psi_0} I/I' \longrightarrow 0.$$

$\Rightarrow$  Clearly,  $\psi_0(g e_0) = 0 = g \psi_0(e_0)$ ,  $e_0 \in E_0$ ,  $g \in I'$ .

What about  $g r_0$ ?  $\Rightarrow g r_0 \in \ker \psi_0$ .

$$0 \longrightarrow R_1 \longrightarrow E_1 \xrightarrow{\psi_1} R_0 \longrightarrow 0$$

Question:  $g r_1 \in \ker \psi_1$ .

Wrong direction!

$\Gamma$  I don't know how to prove

$$\text{Ext}_\sigma^{r-k}(I/I', \mathcal{O}/I_{k+1}') \xrightarrow{f_k'} \text{Ext}_\sigma^{r-k}(I/I', \mathcal{O}/I_k') \text{ is zero.}$$

We know that given any  $\varphi \in \text{Ext}_\sigma^{r-k}(I/I', \mathcal{O}/I_k')$ , then  $\varphi = 0$  on  $\partial E_{r-k}$  and  $I_{k+1}' E_{r-k}$ . But we should know that  $\varphi = 0$  on  $I_k' E_{r-k}$ . Might be wrong.

The authors may make a mistake again.

Putting this all together, we obtain a surjective map

$$\text{Hom}_\sigma(I/I', \mathcal{O}/I_{r-1}') \longrightarrow \text{Ext}_\sigma^{r-1}(I/I', \mathcal{O}) \longrightarrow 0.$$

$\Gamma$  Since  $f_k' = 0$ ,  $\text{Ext}_\sigma^0(I/I', \mathcal{O}/I_{r-1}') \xrightarrow{\text{onto}} \text{Ext}_\sigma^1(I/I', \mathcal{O}/I_{r-2}') \longrightarrow \text{Ext}_\sigma^2(I/I', \mathcal{O}/I_{r-3}') \rightarrow \dots \xrightarrow{\text{onto}} \text{Ext}_\sigma^{r-1}(I/I', \mathcal{O}) \sqsupset \text{onto}$

If  $\varphi \in \text{Hom}_\sigma(I/I', \mathcal{O}/I_{r-1}')$ , then for any  $g \in I/I'$

$$f_r' \varphi(g) = \varphi(f_r' g) = 0 \Rightarrow \varphi(g) = 0.$$